The Builder.

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ILLUSTRATIONS.

Hammered Silver Altar Cross, Salisbury Cathedral.—Mr. E. Doran Webb, F.S.A., Architect ..... *Double-Page Ink Photo.*
Ashorne Hill House: Interior of Hall.—Mr. E. Goldie, Architect ..... *Double-Page Photo-Litho.*
Stables at Shaw Hill, Wiltshire.—Mr. E. J. May, Architect ..... *Double-Page Ink-Photo.*
Proposed Cottages at Harrow.—Mr. T. Phillips Figgis, A.R.I.B.A., Architect ..... *Single-Page Ink-Photo.*
House, near Leicester.—Mr. James Ransome, A.R.I.B.A., Architect ..... *Single-Page Ink-Photo.*

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Professor Herkomer's Suggestions on Scenic Effect.

We can hardly think that Professor Herkomer's manner of putting his views before an important architectural society last week was very complimentary to that Society. The paper was read, it appears, only on the condition that it was not to be discussed; that is to say, that Professor Herkomer would condescend to explain to the meeting how to do it, on condition that they listened to him with reverence and did not presume to question any of his views. This is not the footing on which papers are generally read at the Architectural Association, and considering that very distinguished artists and architects have from time to time appeared there as readers of papers, and have listened to a full though no doubt respectful discussion of their opinions, we are rather at a loss to understand why an exception was to be made in this case. The idea that the meeting had everything to learn from the reader of the paper, and that he had nothing to learn from them, is one which is no doubt sometimes entertained by lecturers, in their inmost minds, but it is not generally openly acted upon, and in this case we are inclined to think it was erroneous, and that probably some suggestions might have been made in the course of discussion which would have been worth the consideration even of Professor Herkomer, as well as of other persons interested. The matter is hardly mended when we consider (what some of the audience perhaps were not aware of) that the paper read to them was practically identical with one which had already appeared in a monthly art magazine, where the illustrations exhibited had also been published.

As we are not under the fear of Professor Herkomer, we may say that one or two of the most important points in connexion with the subject from an architect's point of view, points on which possibly some of the audience might have been able to say something useful, were not touched upon at all. A great deal was said about the treatment of natural scenery on the stage, but not a word as to the treatment of architecture, which is one of the branches of scene-painting and scene-setting that is most in need of reform, being in fact a subject on which scenic artists are very ill-informed and apparently absolutely indifferent. As a general rule stage architecture is entirely nondescript; and no doubt when the scene of a play or an opera is laid in Fairy-land or No Man's land, as it sometimes is, the scene-painter is quite at liberty to indulge his fancy as he pleases. But a large majority of plays profess to represent action which took place at a definite time and in a definite and known country; and we never remember to have seen any play in which architecture formed an important part of the scene where the architecture represented correctly any known building or style, even when it professed to represent a particular building, and when no expense was spared on the mounting. We recall at the moment two particular instances in important plays which were to run for a long time. One of these was "Beckett," where the supposed scene in Canterbury Cathedral was quite impossible in its laying-out, and full of archæological blunders, in regard to which we were told by some of the people called "art critics" that correctness in an architectural representation on the stage was of no consequence whatever. The other case we refer to was a scene in one of the Gilbert-and-Sullivan operas, which professed to represent the interior of a gallery or banqueting-room in Haddon Hall, where there was a timber roof such as never existed either in Haddon Hall or any other ancient building in England, and which moreover was tawdry and vulgar in design. It might certainly have been thought that a painter treating of the subject of scenic art to an audience of architects might have been glad to know what their views were as to stage architecture, and he might have learned some things from them on this subject which painters in general do not know.

The criticism in regard to the general shape of the modern theatre—the "well-hole" shape Professor Herkomer calls it, in which some of the spectators are below the level of the actors and some of them high above, is of course perfectly rational in itself, but it would have been of more practical use if it had been accompanied by any suggestion as to how the dilemma is to be avoided. Of course it would be far better in regard to the scenic effect as observed by the spectators if they were all ranged on one floor slightly curving upwards from the stage level, and the appearance of the house could be rendered much better, architecturally, on such a scheme; but it is a question of money. Professor Herkomer suggested that to provide a theatre in which all could be seated in this manner, and which would accommodate a sufficient number to render the house a paying one, would be an interesting problem for architects to consider. If he had allowed the architects any opportunity to say what they thought, they, or some of them, would probably have replied that it is a completely hopeless problem except by raising prices all round, or at all events doing away with cheap seats; and how will the public like that? No doubt the audience in the gallery see the play at a disadvantage, but they would much rather see it in that way than not see it at all; and that, as long as a theatre is a commercial speculation, is the only alternative. To enable a theatre to pay its way, it must seat a certain minimum of persons, and they cannot all be seated on one floor, because to attempt that would necessarily be to put some of them so far from the stage that they could neither see nor hear the actors properly. A theatre cannot be expanded like a concert room (and even our concert rooms are getting too large for the proper enjoyment of music), because it is a question of seeing the actor's features and hearing the speaking voice, which cannot carry so far as the singing voice. There are only two methods of reform possible. The stalls might be commenced at a slightly higher level, so as not to place the spectators so much beneath the actors, and this high-paying section of the audience being given a more favourable point of view for the figures on the stage than they at present have, there would be an improvement so far, which would not be in any way interfered with by the fact of the existence of the circle and gallery overhead, the occupants of which, as already observed, would rather see the play from that disadvantageous position, at a low price, than not see it at all; which is under present circumstances the only alternative. The only other condition under which the "well"-shaped

theatre could be abandoned would be in the case of theatres subsidised by Government (as is frequently the case on the Continent), in which the management are not under the necessity of thinking of profits before everything else. But we can hardly expect this system to be largely carried out, nor would it perhaps be altogether beneficial to dramatic art; although a representative national theatre partially supported by the State, like the Théâtre Français, would no doubt be a boon both to dramatists and the public.

The suggestion for a proscenium opening which can be enlarged or diminished at pleasure is more applicable to a small private theatre than to a large house. Whatever painters may think, it is an absolute necessity in a large theatre that the proscenium arch should be assimilated in character and scale to the general design of the interior; it must have to a certain degree a monumental appearance—ought to have more of this than it generally has; and we cannot see any possibility of designing and constructing a proscenium opening on a large scale so that the visible sides can be brought together and the top lowered, without producing a very bad architectural and decorative result when this is done. Moreover, on a large scale the practical difficulty of working this arrangement would be much greater than on a small scale. The only way in which it could well be done would be by having a movable proscenium screen of the kind indicated, immediately behind the permanent proscenium arch, or working in a groove between a double wall. The portion of this which would become visible, inside the lines of the proscenium arch, when the opening was reduced, could then be treated so as to present a decorative appearance towards the house; but the main proscenium arch must remain as a permanent portion of the architectural design. There is another difficulty also, in the case of a lofty house with galleries (which, as we have shown, is a practical necessity for economic reasons), that the smaller opening would probably interfere with the view of the actors from the upper part of the house. In short, what would be suitable and easily managed in a small private theatre with the audience on one floor, may be difficult to work and unsuitable to the conditions of a large public theatre. Still, the possibility of adopting this arrangement is quite worth consideration, and no doubt Professor Herkomer's criticism as to the absurdity of having a room the same size in cottage and palace alike is perfectly justifiable in itself. The conditions of the stage, it is true, are essentially artificial and conventional; but this is a convention which, it may be admitted, requires the spectator, like Dickens's "Marchioness," to "make believe very much."

In all Professor Herkomer's suggestions as to the treatment of the landscape, the sky, and above all "the moon," we feel much interested, and all of them are possible in any theatre, irrespective of the general design of the house. His method of building up a back scene in the solid, so as to have real perspective and shadow effects, is admirable, and may be hailed as a chance of ridding us of the kind of stage tree or bush which, as was observed at a Cambridge performance of a Greek play, is "rather too obviously in two dimensions." His stage moon, we trust, may ere long be seen rising elsewhere than at Bushey, now that he has shown us how to do it; and his suggestions for the sky ought to lead to the substitution of something better than the usual arrangement of clothes-lines in parallel rows. The ridiculous trick of following an actor about the stage with the glare from a lime-light bull's-eye, a kind of peripatetic moonbeam, in order that the spectators may see his face in a night-scene, has long amused us quite as much as it has amused Professor Herkomer. As to the question of the footlights, however, there is something to be said on both sides, and we are not sure that there is not as much to be said in their favour as against them. That they light the countenances of the actors from the wrong point is the serious objection, and no doubt it is a very serious one. But on the other hand they have certain beneficial effects both in regard to the spectators and the actors. From the spectator's point of view they put everything on the stage in a special light which, just because it is not natural, has an important effect in removing the scene from reality, giving it a kind of idealised appearance, and masking to some extent what would otherwise be the too realistic aspect of made-up scenery. In dramatic art we do not aim at pure realism, either in the play, the acting, or the scenic effect; and any such aim only defeats itself. Drama is a conventional representation, and it is just as well that it should be produced under a conventional lighting which removes it from all pretence of realism. And from the actor's point of view, we have heard it observed that the glare of the footlights is a very important assistance in interposing a kind of veil between them and the audience, cutting off the audience from their notice to a certain extent, and assisting them to forget the spectators and concentrate their minds on the business in hand. For a large stage, again, it is somewhat doubtful whether any other system would so well answer the purpose of thoroughly lighting the stage; and here again there is a difference between the conditions of a small theatre and a large one. On the whole, we are inclined to think that the footlights are not likely to be lightly abandoned.

THE SHOREDITCH COMPETITION.

ONE thing that strikes one strongly in connexion with the competition for the new Public Library and Baths at Shoreditch, the drawings for which are now on view, is the amount of work which has been asked for from competitors. The premiums offered are of fair amount, as premiums go, but the amount of detailed work which has been required from architects in order to take their chance of obtaining one of these premiums is really unconscionable, and ought to be strongly protested against. The competitors have had in the first place to prepare drawings on a working-drawing scale ($\frac{1}{8}$ in. to the foot), with three elevations, two sections, a perspective view, a detail of part of the elevation, a detail to the same scale ($\frac{1}{2}$-in.) of the counters of book-cases in both lending and reference library, and a detail showing collapsible or removable dressing-boxes for the first-class swimming-bath; a plan of the engineering arrangements of the baths, and the heating of both buildings. To require architects to go into all these details, besides sending in a set of finished drawings to a working scale, on the mere chance of being selected as the best, is a sign of the continued tendency to further encroachment on the long-suffering of competing architects, and ought to be strongly protested against. Of course it may be said that it is the fault of the architects that they accede to such requirements; but it is none the less unreasonable on the part of competition committees to make them.

The competition was for the erection of a public library on the north-west corner of the site, the principal (west) frontage of which faces Pitfield-street, Hoxton, and of public baths and wash-houses over a considerable portion of the remainder of the site. The south-west corner of the site is occupied by an existing building, but there is free access on the north and on the greater part of the west and south sides of the site, which is nearly square in its lines, and therefore not an unfavourable one. The baths department was to be entirely separate from the library block, the limits of the two being defined on the block plan; and the baths included first-class and second-class swimming-baths for men, with the capability of the former being used for women on stated days. This is a very unsatisfactory arrangement, and in the present day it seems absurd to plan swimming-baths without a separate bath for women, of whom the better classes learn swimming as much as the men, and those of the humbler class would probably do so if more opportunity were afforded them. The larger swimming bath was to be capable of being used in winter as an assembly hall, and arranged so as to meet the County Council regulations as to exits. This and the requirement to provide for the use of the first-class men's swimming-bath by women when wanted formed two of the difficulties of the plan, and have not been satisfactorily met by many competitors. Architecturally, there would arise also the question whether the façade to Pitfield-street, which would be necessarily occupied partly by the library and partly by the bath buildings, should be treated as a uniform façade, or should be characteristically treated so as to distinguish the two departments externally. Competitors have had different views on this point; we should think the distinctive treatment the inevitable one in an architectural sense.

It was a special injunction also that the baths entrances should be so arranged that one pay-office would receive the fees from all four classes, first and second class of both sexes; an economising arrangement which, as we have before pointed out, renders the best arrangement and classification of the external entrances nearly impossible, though some competitors have cleverly contrived to reduce the disadvantages to a minimum. Mr. Hare, the author of the first premiated design, places his large swimming-bath (which, it will be remembered, is also to be used as an assembly-room) at right-angles to the principal front, and the smaller swimming-bath butting against it parallel to the principal front. The first-class women's access to the swimming-bath is very well arranged, their entrance-corridor leading to a waiting-room which forms the access by one door to their own slipper-bath department, and by another door, to be kept closed ordinarily, to the swimming-bath. It was not easy to provide for this double use of the swimming-bath in a neat and easily workable manner; one or two of the competitors have blundered badly over it, and several have contrived it in a very clumsy manner. On the other hand, Mr. Hare's men's corridors are long and rather circuitous; and though his exits from the large bath when used as a hall are sufficient, the route from the hall doors to the street doors is rather complicated. This is a fault in many of the plans, but one or two have been very successful with this detail. Mr. Hare has used up his space very completely, and done without any open areas, but this has involved putting the lending-library, where less light is required, at the inside of the library site, and the reading-room at the outside, where there is more noise. He is right however in keeping his reference-library on the upper floor and lending-library on the ground-floor, (there not being space for all the rooms on the ground-floor); the use of a reference-library is much more limited, in an ordinary public institution, than the use of the lending-library. The entrance to the lending-library is not as straightforward as it should be.

The principal elevation is treated as that of one building, and though a little what is sometimes called "fussy," it is on the whole the most pleasing one in the room, and probably had a good deal to do with the selection of the design. The heavy timber roof over the large bath we do not like, but it must be remembered that the bath was to serve a double purpose, and the roof may seem more suitable when the apartment is regarded as a meeting-hall. In fact, it is almost impossible to design an interior which shall look equally well as a swimming-bath and a meeting-hall; the treatment that suits the one does not suit the other.

The author of the second premiated design

has apparently withdrawn his drawings from exhibition, as an expression of his feelings at not having received the first premium; a proceeding hardly either wise or dignified. In the third premiated design, by Messrs. Groll & Todd, the baths are arranged on the ground in the same way as in the first. The men's entrance to the first-class swimming-bath is very circuitous, but otherwise the entrances are well planned. The central pay-office is cleverly contrived so as to admit of keeping the men's and women's entrances quite distinct and separate, and the extra exits from the large bath are much straighter and more obvious than in the first premiated design. In the library department the lending library is upstairs, which is a mistake, but the doors and public counter to it are well arranged. The point to be looked to in the access to a lending library is that the public should approach it in a straight direction and not round corners, and that the counter and space for the public should be wide and shallow rather than deep and narrow and projecting into the library. Some of the plans are exceedingly bad in this respect, and would lead inevitably to perpetual jostling, as in number 26, where one door, reached at right-angles from the street entrance, gives access to one end of a long counter-space. There should be at least two doors, for exit and entry, and both in a symmetrical and central position with reference both to library and street entrance or hall. The exterior design in the third premiated set is very inferior to the first, though more pretentious; and the details are coarse. In fact, this set has got its position by plan, as we think the first did mainly by design, although there are very good points in the plan of the latter.

A few notes only can be given on the remaining designs, which are very badly exhibited, no trouble having been taken to render them all equally accessible, which is very unfair to those which are jammed together so that no one can get at them, though we presume that in all probability the best ones have been put in the most accessible places. Taking them in the order in which they were hung (the numbering did not follow in order) we may note that No. 23 is a design with some character, and the corridor access is well planned. No. 24 shows the entrances to the baths exceedingly well planned, the corridor routes being simple and obvious and the special women's access to the large swimming-bath well provided for. The approach to the lending library is better than in either the first or third premiated plans, being up broad steps facing the street and giving direct access to a long unencumbered counter space. The question has been raised by a correspondent in our columns whether it was necessary or right to have bestowed the separate premiums for library and bath designs—the Commissioners having retained the power to adopt and to premiate the designs for these two departments quite separately—on the same competitors in each class of premium, and whether there were not plans for either library or baths which, taken separately, were superior to one or other department as treated in the premiated designs; whether, in short, the premiums ought not to have been more divided. This plan certainly gives some point to the complaint. The exterior design is not very refined, but it is not without effectiveness and originality; it shows a large square mass over the baths entrance, crowned by a cupola.

In No. 34 the library block is very well planned, better perhaps than in any other plans we were able to examine. There is a good wide central entrance, the lending library and the reading-room are on opposite sides with their ends to the principal front, so that the noisy angle of the building is given to the lending library, and the reading-room is kept more within the building and top-lighted; the magazine, also top-lighted, is behind the entrance-hall, and in a quiet position. The reference library is upstairs, which, as we have said, is much better than putting the lending library there. The baths plan is not nearly so good, and there is no proper provision for the women's approach to the swimming-bath. The elevation shows a good deal of character.

No. 1 shows an original though rather eccentric architectural treatment, in one symmetrical block with square angle towers with battering wall-lines, which are more easily put on a drawing than economically carried out. The baths entrance, with its two oval lobbies, is ingenious and effective, but the exits from the large bath, when used as a hall, are insufficient.

No. 6 is good in the planning of access to baths; here the second-class men's baths have an entirely separate street entrance round the corner, but the author has been unable to separate the two classes of women's entrances in the same way, which would perhaps be more desired. The access to the lending library is well planned. The exterior design is quiet and in good taste, but rather unnecessarily cut up into fragments.

No. 19 looks a good set of drawings, with a pleasing though very simple exterior treatment, but will not bear close examination; the baths entrances are not well planned, and the board-room opens out of the women's baths vestibule, an absurd arrangement.

No. 9 is a sensible-looking design architecturally; the entrances to baths are well arranged except the women's access to swimming-bath, which is provided for in rather an accidental kind of way. The library block is well planned. The long exit corridor from the back of the large bath and running along outside of it is of no use, as it only ends in the same lobby into which the people coming straight out from the nearer doors of the hall would be discharged.

No. 2 shows a pleasing design and a beautifully got-up set of plans, but has many faults of arrangement.

In No. 35 the lending library and its entrance are well planned, but the reference library above should have been at the back (for quiet) and the book-store in front. In the baths plan the women could not get access to the swimming-bath without going through the corridor of the men's slipper baths, a quite untenable proposition. No. 28 shows the eccentricity of separate street entrances for men and women, leading immediately into a vestibule common to both. It is no use to label doors "men's entrance," "women's entrance," unless the internal arrangements correspond.

No. 20 has an external design with a good deal of picturesque character; the baths are very well planned, the access to them perfectly simple in its lines, the women's access to swimming-bath very well managed, and there are ample and straight exit corridors from it when it is to be used for meetings. The library portion is also very well arranged, with the librarian's room on the ground floor communicating with lending library and newspaper room on opposite sides; the access to the library is rather throttled and the space for the public inside awkwardly cut into by the piers. The baths access and corridor plan is the best we have noticed among the plans.

We believe the competition has been most fairly conducted, but we do not feel the same confidence which we have been able to feel in some such cases, that the best plan has really been selected, and we doubt if any one plan combines the best treatment in both departments so decidedly as to justify the award of any two premiums to the same competitor. More justice would have been done if the premiums for library and baths had all been separately awarded.

NOTES.

THE Committee, consisting of Lord Kelvin, Mr. W. H. Preece, and Major Cardew, which was appointed to define the limit of a low-pressure supply for electric lighting, have reported to the Board of Trade. They have recommended that if the conditions of the supply are such that the pressure can never at any time exceed 500 volts if continuous, or 250 volts if alternating, the supply should be considered low-pressure. They have also recommended that the limit of the pressure on a low-pressure supply at the consumers' terminals should be raised to 250 volts if continuous, or the equivalent thereof if alternating, provided that no change be made in the pressure of the supply to any consumer in consequence of the issue of these regulations without his consent. We are glad to see that a well-marked distinction has been made between direct and alternating current supply, a point on which we have always insisted, as at the recent Conference an attempt was made to place them on the same level. The report is certainly favourable to the electric lighting companies, and we think that the limit has been fixed at a higher value than the educated consumer will altogether appreciate. It is amusing to hear low-pressure electrical engineers declaring now that a pressure of 600 volts is quite safe; not so long ago they considered it deadly. It merely shows how easy it is to convince oneself when it is to one's interest to do so.

FROM the consumers' point of view, a 100-volt electric supply current is far preferable to a 200-volt supply. Anyone who has heard a fuse on a 200-volt circuit go off like a pistol shot needs little technical knowledge to understand that the danger of arc-ing across the terminals of cut-outs is far greater with the higher pressure. It depends now on the makers of electrical fittings and the wiremen to guard against this greatly-increased danger. Single pole cut-outs must never be used, and only the best flexible wire, and even then the insulation of flexible wire is but a poor protection from shock and short circuits after it has been in use for several years. The suggestion that the Board of Trade should give a provisional sanction to any three or five-wire supply company to earth the middle wire we hope will not be adopted. We have seen a workman light an arc lamp on a London public supply circuit by connecting one end to the gas-pipe instead of to the other main, his reason being that it burned more brightly when connected in this way. This is one of many cases we have come across of grown-up people experimenting either wilfully or out of ignorance with electric light fittings. Electrical engineers are hastening on too quickly in their agitation for higher pressures. In time, when people know more about electric supply, it may be safe to use higher pressures, but at present it most decidedly is not. A few accidents due to this cause would do far more harm to the industry than the expense of a few tons more copper in their mains.

A SHORT discussion took place at Tuesday's County Council meeting on the recommendation of the Main Drainage Committee to pass over the lowest tender for the supply of centrifugal pumps at the Heathwell Pumping Station, and to accept the fourth on the list. The Committee explained that the contractor whose tender was the lowest did not appear to have had much experience in the manufacture of centrifugal pumps, and, in fact, had only erected one, and that one "in Russia." The second lowest tender was informal, and the Committee were of opinion that they ought to accept the estimate by Messrs. Gwynne & Co., the original patentees of centrifugal pumps, whose tender was only 72*l.* in excess of that by Mr. John Cochrane, who came third on the list. The report of the Committee gave two reasons which had influenced them in making this recommendation: that Messrs. Gwynne had had many years' experience in the manufacture of centrifugal pumps, and that they "are a London firm"; and it was

this last reason which principally gave rise to the attack which was made upon the Committee. It was said that the recommendation was an insidious attempt to introduce protection for London firms, and that the question was not merely one of 72*l.*, but whether or not the Council cared to risk destroying the confidence of contractors in the good intentions of the Council. In the end the Committee's recommendation was agreed to, most of the members appearing satisfied with the explanation that the Committee had been alone animated with the desire to get the best pump. We are not surprised that exception should have been taken to the recommendation, and we are glad that members of the Committee repudiated any intention to limit the execution of the Council's work to London firms; to introduce Protection in this form would, in our opinion, have a seriously adverse effect upon both London work and London workmen. In regard to the action of the Committee in passing over the lowest tender there appears to be an opinion among many people that public bodies are bound to accept the lowest tender, and that notwithstanding the usual clause to the effect that they do not bind themselves to accept the lowest or any tender. The lowest is usually accepted, and rightly so, but where there is good reason for departing from the rule, it is simply a waste of time to call in question the justice of such departure.

COUNT BADENI, the new Austrian Prime Minister, and the Ministers for Commerce and Education, have received a deputation of the amalgamated societies of Austrian architects and civil engineers in reference to a number of important questions affecting the training, examination, registration, and privileges of the technical professions, the creation of new technical Attachés on the Foreign Embassies, and improved sanitary legislation. We cannot give space to describing all the various requests and schemes put before the Government, but it may be well to mention that this deputation of the technical professions was exceedingly well received, and that, according to our Vienna contemporary, the *Freie Presse*, the subjects broached will receive immediate and favourable consideration. The deputation included "Ober-Baurath" Prenninger, "Stadtbaudirector" Berger (the City Architect of Vienna), and Herr Ziffer, on behalf of the civil engineers. The amalgamated societies last met at Vienna in 1891, and can boast of a total membership of over five thousand. A standing committee or council permanently represents the body.

WHAT is the life of an iron railway bridge? This question formed the subject of a paper recently read before the American Society of Civil Engineers by Mr. J. E. Greiner, and, as might have been expected, it lead to a long and interesting discussion, although no very definite decision was arrived at. If railway bridges have had to be renewed after only twenty-five years' service, as has often happened, it is not on account of their having failed, or worn out under the loads which they were designed to carry, but because these loads have been increased to such an extent that they became shaky and totally unfit for the much heavier traffic at greater speed now in use. The tendency for some time past has been to increase the weight of the rolling-stock on our railways, as occasion required, and this will no doubt continue so long as it is more economical to work a smaller number of heavier trains than a larger number of lighter ones. In designing bridges at the present day, therefore, it is very difficult for an engineer to decide how much he should assume the weights of the locomotives will be increased in the future, since this is a matter largely beyond his own control; and although it is his duty to save money in maintenance and construction, yet it is his highest obligation to insure safety. Those who have questionable bridges to look after, and who are undecided as to what action should be taken, would do well, in cases of serious doubt, to give the travelling public, and not the bridge, the benefit. Iron is cheap when compared to human life.

AS we anticipated, Salisbury Cathedral tower will require more than was at first expected to make it secure; more nearly 10,000*l.* than 5,000*l.* It is satisfactory to learn that the result of Sir Arthur Blomfield's detailed examination of the tower is that it is safe for the present, against anything short of an earthquake.

FIVE sets of designs for artisans' dwellings have been sent for our inspection, the five placed first in a competition for the erection of a block of such dwellings proposed to be erected at Kentish Town, at the cost of a gentleman who wishes to do good without advertising himself, and whose name, at his own request, is not given. We understand that none of the designs sent in will be carried out as they stand, as none are considered entirely satisfactory; but five have been recognised as worth attention, and are placed in the following order of names:—(1) Mr. Harry Heathman (Bristol); (2) Mr. C. Pickford (London); (3) Messrs. Killick & Wood (London); (4) Mr. W. G. Lewton (Reading); and (5) Mr. Valentine L. Knight (Blackheath). The site is a parallelogram bounded on three sides by straight lines, the fourth boundary, at one end, being irregular in shape: the principal front facing Highgate-road. The author of the set marked No. 1 was placed first (and rightly) for having adopted a plan carrying the buildings round three sides only of the ground, leaving an open side towards Highgate-road, and also as managing the working of the plan with fewer staircases than the others; Nos. 2 and 3 as being the two best following a usual type of plan of artisans' dwellings, with two parallel blocks and a space between; No. 4 for his special arrangement of a boarding-house for unmarried clerks forming part of the scheme, which is a good feature and is well arranged; No. 5 for the best arrangement of the club premises which form part of the scheme. All the sets show in the main a very creditable attempt to deal with the site, but one or two of them have serious drawbacks in detail which seem to have escaped the notice of designers and client. In No. 1, which in the main arrangement is no doubt the best of the five, there are several dwellings shown on the ground plan, and which would be repeated on the upper stories, in which the water-closet opens direct out of the scullery; these are the minority of the dwellings, but the arrangement is most objectionable. In No. 2 the kitchens would be almost entirely without light to the fireplace, and in the main we should consider No. 3 the much better arranged. In No. 4 a praiseworthy attempt has been made to make a small bath-room a feature in artisans' dwellings; this is seldom or never attempted, but it is a most desirable innovation, especially where men are employed on trades in which they cannot avoid getting dirty in the ordinary course of their work. We should be very glad to see this taken as a precedent, wherever it can be economically possible. No. 5 also introduces bath-rooms, but in a separate house, divided for men and women. The plan is rather wasteful of space, and the range of coal-cellars (also placed separate) much too large for the requirements of such houses. We shall be interested to know what is the final result of this well-intended effort.

A TOUR has been arranged by the Architectural Association to Greece, which gives promise of being a very successful one. The party will start on the 16th inst. and will be away for twenty-four days; while the cost to the members of the party will be exceedingly reasonable. Communications on the subject, by those intending to take part in the tour, should be addressed to Mr. Hugh Stannus.

THE work by the Editor of this journal, published about six months ago under the title "Architecture for General Readers," will be re-issued shortly by Messrs. Chapman & Hall in a double second edition, one for England and one for America, the latter being taken over by Messrs. Scribner.

A FEW of the lithographs by Mr. Whistler exhibited at the Fine-Art Society's Gallery have a certain charm and interest; including nearly all those in which the figure is the principal subject, such as "The Little Model Reading" (3) "The Sisters" (61), and some others; and some of those which represent nooks and corners of street-scenes are effective, though there is nothing very remarkable about them. A large proportion of the exhibits, however, are rough scribbly sketches of a bit of a house, sometimes only a window or two, which are of no value in any sense, except such market value as may attach to them from the artist's name, so long as people are silly enough to take everything Mr. Whistler does at his own valuation. To see such a scrawl as the one facetiously labelled "Hôtel Colbert, Paris" (40), priced in the catalogue at two guineas for an impression of it, is a curious indication of what it is supposed that the public will swallow. We should be sorry to give two shillings for it; but people who are foolish enough to be caught by this kind of pretence deserve to lose their money.

THE meeting last Saturday at St. Albans, at which the parishioners of St. Peter's joined in expressing their thanks to Lord Grimthorpe for restoring their church, had its amusing points. The principal speaker mentioned that Lord Grimthorpe, when offering to restore the church, had stipulated that there was to be no committee—in other words that he was to do exactly what he liked—and said that in the case of any one else this proposal would have been seriously considered, but that "after the magnificent work his Lordship had done at the Abbey," the proposal was accepted without hesitation: a conclusion highly characteristic of the typical attitude of the British Philistine on such subjects. Lord Grimthorpe has made himself a laughing-stock and the unfortunate cathedral of St. Albans a monstrosity by the bungling architecture with which he has deformed it; accordingly he is a fit man to be given entirely irresponsible charge of any other building where he likes to pay for the privilege of posing as an architect.

STUDENTS' DRAWINGS AT THE ROYAL ACADEMY.

THE exhibition of students' work for the various prizes given by the Royal Academy cannot be said to be above the average, and considering that this is a "Gold Medal Year," the drawings are somewhat disappointing. In architecture the Travelling Studentship is awarded to Mr. Pieter Rodeck for a design for a large town church, its plan based on that of a Greek cross. The design is in a severe style, with Byzantine detail, and no doubt has gained the prize partly on account of the way the form of the Greek cross has been adhered to on plan. In many other respects, we must own a preference for one of the unsuccessful designs—a treatment of Renaissance simple and effective, with central dome, and four half domes over the arms of the cross. Mr. Rodeck's perspective is hardly satisfactory, and has been taken from a point which has the effect of unduly stilting the upper portion of the design. A third design is of a more elaborate nature, and gives many evidences of a study of St. Paul's Cathedral. But the outline of the dome is obviously too squat—from the ground a great deal of it would be lost.

Nine designs have been submitted for the

planning of a club-house—that by Mr. W. E. Brown being awarded the prize. He has, however, crowded four tables into the billiard-room, allowing only 6 ft. between them, and although evidently made so for the sake of symmetry, the committee-room on the ground floor and the card-room over it are too large. Design No. 8 is in many respects one of the best working plans. It provides a visitors' reception-room, leading out of the vestibule, and the staircase hall is well screened off, with the principal club-rooms leading from it, the library and billiard-room being placed behind, where quiet would be better obtained. We should have placed the library on the ground floor, and the billiard-room over it, where it could have had a top light, and have been within easy access from the dining and smoking rooms. A large area is provided at the back. The other plans do not call for special notice. Mr. Pieter Rodeck, the Travelling Student, has also been awarded the 10*l.* prize for a set of drawings of an architectural design—a strange-looking tower, possibly clever, but certainly not beautiful. Mr. George Weald wins the 25*l.* prize for a set of architectural designs.

The subject set for the Silver Medals was the Horse Guards, and many will be glad to see a set of measured drawings of this interesting building—a public building erected at a time before the value of breadth in designing a large building had given place to the fussy elaboration of much of our present-day work. Both first and second prize drawings, by Mr. Archibald Christie and Mr. Wm. Hawke respectively, are carefully drawn, the latter having, however, given more details than the former. The drawings made by the Travelling Student elected in 1893, Mr. James Stewart, are an interesting series, comprising pen sketches, pencil and crayon work, and some water-colours. The subjects are from Italy, France- and Spain, and amongst the best are a measured drawing of pulpit at Ravello Cathedral, the Alcazar, Toledo, a front from Salamanca, the façade of the Theatre of S. Carlo at Naples, a portion of a pavement from Siena, as well as two drawings of an interior and porch of the cathedral, an interior at S. Peter's, Rome, the beautiful tomb of Leonardo Bruni, at S. Croce, Florence, and water-colours of a gateway at the Alhambra, an oriel and churches of S. Etienne, and S. Gilles at Caen. Nearly every drawing, however, bears evidence of careful study.

No less than fourteen designs have been submitted for the prize of 40*l.* given for a design for decoration of a Public Building, but the selected design by Mr. Harold E. Speed is in every way so far in advance of the others, that the judge's work must have been easy. "Autumn" is the subject given —"Spring and Summer" having been given in former years—and we understand that the design is to be executed by the artist. Of the other prizes Mr. E. H. Reed wins the Creswick, the subject being "The Bole and Roots of a Beech Tree," Mr. H. R. Mileham is awarded the Travelling Studentship for his painting of the "Finding of Moses," and the Landscape prize falls to Mr. C. R. Burnett. A Silver Medal is awarded to Mr. F. D. Wood for a design for a medal to commemorate the Institution of the Order of the Garter, the obverse having a bust of King Edward III., and the reverse St. George and the Dragon with marginal inscriptions—all excellently designed. For the Composition in Sculpture, the Travelling Studentship and Gold Medal is given to Mr. Francis D. Wood for a very beautiful and refined group representing "Dædalus and Icarus."

THE ARCHITECTURAL ASSOCIATION :

SCENIC ART.

THE fourth ordinary meeting of the present Session of this Association was held on the 6th inst. in the Meeting-room of the Royal Institute of British Architects, Mr. W. D. Caröe, M.A., F.S.A. (President) in the chair.

The following gentlemen were elected members, viz., Messrs. C. M. Berrington, H. E. Davey, and J. M. Western.

The President said he had been asked to state that a very promising tour had been arranged to Greece on December 16, lasting twenty-four days. If any of the members wished to take part in this tour, which was an exceedingly reasonable one in price, he would ask them to communicate with Mr. Stannus. He had also to announce that the lecture on Special History, Division II., by Mr. Farrow, would commence on the 16th inst., and that on Elementary Construction, Division I., by the same gentleman, on the 18th inst.

The President further announced that the Committee had decided to open the handicraft classes in connexion with the Trades Technical Schools to all the students, irrespective of their belonging to the Class of Design or not.

Professor Herkomer, A.R.A., then read the following paper on "Scenic Art" :—

You will agree that there is some danger in encouraging an enthusiast to speak of an art in which he is but slowly feeling his way by means of experiment, for he is sure to see possibilities in his own mind that cannot be manifested to others except by demonstration.

When I was in the full swing of my experiments, many absurd motives were imputed to me by the over-indulgent public, who have witnessed and encouraged my efforts in stage-work ; of these the most fallacious was my supposed desire to reform the scenic art of the times. Surely, when an artist, who has sternly suppressed the craving for stage-work during twenty years, at last is able to build a theatre of his own in which to make experiments, it is hard that he cannot do things his own way without at once being made to pose as a reformer. I will frankly give you my thoughts and reflections on scenic art, but although I shall suggest many changes, I want you to understand that I am but a worker, and not a reformer in this field of art.

The questions for consideration are: firstly, "The auditorium"; secondly, "Realism on the stage"; thirdly, "The lighting of the stage."

As the very word theatre means "a place for seeing," we must first consider how it is that it has become so much a place for "partial seeing." Practically, the means at the command of the modern scenic artist are unlimited in their range and possibilities. But unless some serious changes are made in the construction of the auditorium, the scenic artist will never have his work properly seen.

There is a strange innate conservatism in man that causes him to repeat a model once established, and with almost Stoic indifference to the exigencies of the age. Thus it is that the semi-circular-shaped auditorium of the present day theatre, which sometimes forms a complete circle, like a deep well, has as its prototype the first great Dionysiac theatre, built 340 B.C , with its auditorium scooped out of the rock. The Roman theatres were copied mainly from the Greek originators, but were built on level sites, and not scooped out of rock. There was even a double theatre built in 50 B.C., "which revolved on pivots so that the two together could form an amphitheatre in the afternoon after having been used as two separate theatres in the morning." In the Roman theatre the "orchestra," which was occupied by senators and people of rank, would correspond practically to our present stalls and pit.

There was a change in the well-like shape of the theatre in the Middle Ages, when the miracle plays were given. This was owing to the temporary homes needed by the strolling players. Either they were performed in churches, or tents, or wooden sheds, or courtyards of inns—the latter, especially in the time of Elizabeth, under the management of Shakespeare and that carpenter Burbage. What the first building erected by Burbage in London in 1576 for dramatic purposes was like I cannot say, but no doubt some illustrations exist. It is, however, certain that the deep "well-shaped theatre" has been bred into our natures for many hundreds of years, and will take some time to breed out. All the inconveniences are overlooked or are considered essential parts of the proceedings—at all events, when people are in such a building they really feel that they are in a theatre. On the same principle, hundreds of people who never enter a theatre on principle, will witness a play enacted by German Reed's company, because St. George's Hall, in which the performance takes place, does not look like a theatre, and their consciences therfore sit at rest. But for the real *habitué* of the play-house any new distribution of seats would be heresy, and it is this personage that the manager fears and bows to, hence a dead-lock in the construction of theatres.

No doubt for economical reasons the builders of theatres have been compelled to adhere to the old form of auditorium, which is, as I have said, nothing more nor less than a great well. I am fully aware that the form of auditorium in Wagner's theatre at Bayreuth (which to me is the only correct form) is not easy to carry out in a city like London or Paris. Still, I believe a modification of this principle is possible, and that some form of auditorium with an entirely new method of distributing the seats could be invented without encroaching too much upon ground space, and at the same time without reducing the number of seats required to make the theatre pay. Here is a chance for the budding architect ! In any case the principle should be to provide seats from which the full intention of both actor and scenic artist can be perfectly seen by the audience. I take it that an actor should study his actions as much as his tone of voice, and that in many cases his meaning should be made clear to his audience by his movements alone. But how is it possible to make his movements convey, at the same time, the right meaning to the person who sits 30 ft. or 40 ft. above him and the person who sits lower than his feet? Now, it will be readily understood that the point of view from which a plastic picture is seen is of even greater importance to the scenic artist than it is to the actor, yet, under existing circumstances, it is impossible for him to make his stage-picture look right to every person seated high and low in this great well.

When judging the pictures in the Royal Academy for the annual exhibition we sit in a semi-circle, and the pictures are held opposite the President, who sits in the centre. I have noticed that the Academician who sits nearer the centre finds much less fault with the drawing in the pictures than the Academician who sits at the end of the semi-circle ; and for obvious reasons. In our studio, again, we carefully raise our picture on the easel to the proper height before showing it, and studiously place the chair in front of the picture for the spectator, as we believe the entire effect of our picture to be lost if the eye cannot rest somewhere near the actual point of sight in the composition.

The reasonable placing of the spectator before a plastic stage-picture is of equal importance, and I must perforce consider the imperfect seeing of the scenic artist's work as a serious, perplexing, as well as an unfair tax upon his art.

Having so far touched an initial flaw in the construction of the auditorium, we will pass on to the actual scenic work of the stage.

Of course there are people who think all scenic display is hostile to the drama. But the dramatic and pictorial are to my mind inseparable factors in a stage play ; therefore I could not be happy with Shakespeare in a barn. And although a bad play or a badly acted play cannot be saved by the mere excellence of its scenic mounting, a good play and good acting is most assuredly enhanced by this (to me) indispensable auxiliary. But now we come upon that most misconstrued word "realism." I might as well clear the ground by saying that positive realism on the stage is an impossibility. Let me explain.

Natural phenomena must always be expressed through an art, and that art is applied by a human being whose idiosyncrasy leaves its mark on every effort. Therefore the aspect of reality is by no means always attained by actuality on the stage, because the very foundation of scenic art is artificiality. Further, it is through the management of light that we touch the real magic of the art. Hence it follows that open-air plays can never be satisfactory. The actuality of nature and the artificiality of the actor's situation can never blend ; nor is the light under control of the magician whose especial privilege it is to take you into a world of his own making. It is through his craft that he makes you realise nature, and it is through artificiality that his craft becomes expressive.

Many people who witnessed one of my plays took it for granted that I had opened out the background so as to bring actual nature into the line of sight, for to them the distance looked too real to have been artificially produced. After the performance I allowed them to come on the stage to see by what means I had obtained the illusion, and it was curious to note the tendency to resent the "trick" whereby their eyes were deceived. Some may even have doubted my honesty, and may have gone away with the idea that I did not show them the real method whilst they were on the stage. But they hardly realised how, through the management of lights, the strangest deception can be practised upon our visual organs.

By means of absolute control of the lights, we arrive at mystery, and without mystery the very backbone of scenic art would be broken.

It is this want of mystery, through the presence of daylight, that caused the Oberammergau "Passion Play" to appear so unnatural to me—I use the word "unnatural" advisedly.

The real secret of perfect scenic art lies in illusion—in deception—in not allowing the eye of the spectator to see the means whereby the semblance of reality is obtained. Mere actuality does not accomplish this any more than

simple good painting. It is in the attempt to get every requisite effect by painting that so much mystery is lost on the stage, for the scenic-artist's art should be as much hidden as that of the actor. We should not require to know whether a background is painted or modelled, any more than we should trouble ourselves to know whether an actor is "made up," or appears in his natural form. We ask that he shall look the character that he is portraying. Just so ought we to desire that his background shall be artistically right. I plead that the "make up" (as it were) of the background should be held to be of equal importance with the actor's personal "make up." If you dispense with the one, you might as well dispense with the other. Indeed, if you accept a rose bush cut out of thin boards, the edges of which you can hold between your thumb and first finger, or a street-scene painted on canvas and hung across the stage upon which shadows of the passing actors are thrown from the foot-lights—a sheet that is moved like a sail by every draught of the stage—you ought in truth to accept an actor whose wig has been so badly put on, that his own black hair shows underneath the artificial bald head. The latter would never be accepted by the public, but the former are seldom questioned.

It is amazing to me how an audience that is only too ready to howl down the slightest inconsistency in the characters acted on the stage, will meekly accept the grossest inconsistencies in their scenic surroundings. The utter absence of mystery, the barefaced childish neglect of truth to nature never disturbs them—so few people, alas! have looked at nature; hence the impunity behind the proscenium. But all this is not right.

I hold the stage to be the medium through which the greatest truths in nature can be brought home most directly to the minds and hearts of the people, and all the arts can, to their fullest capacity, be united in this most complete form of human expression. But we should not be satisfied until all the arts are placed on an equal footing, not necessarily of importance but perfection.

Let this be clearly understood; instead of swamping the actor by the scenic art, the perfection hinted at here would quite as often mean the entire subjection of scenic art to the importance of the actor at certain moments.

Although the one branch, scenic art, that I am now treating of, has improved, the improvement has been unsolicited from without. But that is naturally a slow process. Wait until your audiences howl down a ridiculous stage moon, and you will soon mend that luminary. It is quite safe at present to let your moon rise perpendicularly up the sky, very quickly, until the mechanism is exhausted, and then let it stop. Further, that the moment this red, rising moon appears over the horizon, it shall send rays of blue light from the opposite direction from which it rose. It is safe to let down a "wobbly" sheet of canvas, also close to the foot-lights, with a scene painted thereon representing breakers dashing over the cliffs, and perhaps a sinking ship in the distance, to which the actor may have to refer in his speech. It is safe to have layers of canvas hanging from the "sky," like so much washing hung on a line; and certainly nobody ever questioned the prerogative of the "Firmament" coming together at right-angles in the corners.

Now, I rejoice whenever I see a noble effort to bring about an "artistic whole" on the stage, notably from the hands of that great artist, Sir Henry Irving, who, with a giant's strength, carries through schemes that would crush any other actor or manager. I suspect there is but one master-mind behind the Lyceum proscenium, and that is the secret of all success. If a thousand people are needed to carry out an art scheme, it must be planned and directed by the one man who stamps it as his work.

Still, scenic work, as we see it, even at its best, is still more or less on old lines, and on those old lines the greatest capabilities of the art cannot be reached.

You may ask, if mere good painting on the stage will not give you the best result, what will? My answer is: There is no law to guide you; use whatever contrivance gives you the best effect. Through the witchery of the light do we get at the semblance of nature on the stage, and often the most trumpery materials, when properly illuminated, will beat the most skilful touch of the painter. Therefore the scenic artist must be a born experimenter, with the faculty of seizing the artistic accident. He must be an inventor of ways and means; must be of an imaginative as well as a practical turn of mind; strong in body and indefatigable in his energy, and withal a first-rate artist. Rather a "large order"! But it is to this scenic artist that the actor should look for the completion of his dramatic situation. Although the interest is more centred upon the actor than upon his scenic surroundings, I would go so far as to say that many a dramatic situation has been weakened on the stage (although the spectator could not perhaps define the reason) by the "mood," or, as the Germans say, "*Stimmung*" of the scene being out of harmony with the rest of the actor's situation.

It is this mood or aspect of a scene that should, to my thinking, reflect that of the actor, or else strengthen it by the force of contrast.

Just as an atmospheric effect, or a scene in nature, produces that indefinable condition of the mind that we call a "mood," so ought a scenic effect on the stage to impress itself on the mind of the spectator by its poetic and picturesque fitness.

To produce this magical effect the question of lighting is perhaps the most momentous, as the best design and the most artistic work can be uttterly ruined by the improper application of the light.

I fancy that there have been but few changes made in the system of lighting the stage since the introduction of gas. Electric light is only supplanting gas, with little, if any, departure from the same system of applying it.

It is strange that tradition sticks to the stage more than to any other form of art, resulting, as it does, in habits of thought to which we trace the origin of fashions, of manners, of mannerisms, and of blindness. But I would not sweep away tradition any more than I would allow it to cripple originality, if it were sincere, for such originality would emanate from minds that have not striven for mere novelty. But so overwhelming in their magnitude are the demands made upon both scenic artist and stage-manager, to which must be added the maddening limitation of time for all their efforts, that they naturally resort to tradition in order to save their very lives. By avoiding all experiments the scenic artist at least retains the serene "mood" of the stage-carpenter, whose habits of thought are stereotyped, to put it no more strongly.

But without experiment, fresh with every piece and every design, there would be no more chance for the scenic artist wholly to break loose from the bondage of tradition than it would be possible for an author to produce original plays if he had to write for the same company year after year.

Now, I cannot but wonder that results on the stage are successful at all, considering how divided are the elements at work upon scenes that should have, as I have said, the stamp of one mind—either that of the stage-manager or that of the author. The "limelight artist" is as far removed from the contriver of the mechanical devices as the scene-painter is from the stage or acting-manager. And all the difficulties are as much a sealed book to the public as—well, as an orchestral score. Therefore, in criticising the present methods of lighting, I wish in no way to undervalue the enormous difficulties that beset author, manager, and scene-painter in their attempts to please a mysteriously-constituted public. But there are so many pieces placed on the stage now with every preparation for a long run, that I maintain that some radical changes could be made, not only with advantage, but with ease, especially in the matter of lighting the stage. In view of this, I will first attack the sacred footlights.

I take it that footlights are simply the survival of a period in which lights had to be given with but poor material. And a nice commotion there was when the candle-period had to give way to the lamp system (because the actors considered the stumps of the candles as their perquisites), and again when the lamp system was swept away by gas. Footlights are convenient, but they are chiefly to blame for the false and unnatural aspect of the stage, to which, I fear, the public have become so accustomed that they almost prefer it to anything more closely resembling Nature. Lately in Munich (where scenic art is by no means at its worst), at one of their good theatres I saw an interior lighted up entirely by the footlights, which caused the top of the table to be absolutely dark, so that the poor actors could not see to eat without putting their noses down into the plates.

But what are we to do without footlights?

We all know that the lights from within the proscenium alone cause heavy shadows on the faces of the actors as they approach the front of the stage, and that these shadows must be relieved by some lights in front of the proscenium. But where to place them? Nobody will be rash enough to say that light ever came from the ground in nature. Therefore to place lights on the ground, under the noses of the actors, cannot but destroy all chances of obtaining truthfully the aspect of nature on the stage. If footlights were only becoming to the actors one might put up with the unnatural effect they produce. But here again the verdict must be against them.

In my first little experiment at Bushey I had fully intended to introduce footlights, but time was getting short and the effect was so good without them that I simply left them out. A great virtue was made of this by my kind critics. Now, to be credited with a virtue of which one was unconscious makes one think very kindly of one's self, and I was not long before I worked this accident into a theory. The year after, in my pictorial music-play, "An Idyl," I found the shadows on the faces of the actors could be perfectly softened by the group of lights I had placed on each side of the auditorium, about 10 ft. from the proscenium, and raised to about the height of the actor's face. These lights I afterwards "boxed up," so that they were perfectly hidden from the audience, and only gave their light to the stage. I may safely say that the effect I produced with this aid was, to the judgment of a painter's eye, as nearly as possible that of open daylight. I naturally now allude to the painter who aims at truth in nature, for we have in pictorial art the same incongruities that I complain of in modern stage-work. We have portraits (aye, and by great painters) representing a strong studio light on the face of the sitter, casting its heavy shadows under the nose, chin, and eyes, with a landscape in the background including a setting sun, or even with an additional effect of moonlight higher up on the canvas. In speaking of daylight, I do not mean necessarily sunlight, for that is much easier to represent on the stage than the diffused light of day when the sun may be hidden by light clouds—an effect that was probably first well rendered in our times by Frederick Walker, that master to whom we owe a true Renaissance in English art.

But if anyone wishes to gauge this effect of nature by mechanical means, let him look through a camera obscura, and Walker's art will be immediately suggested to him. Therefore I rather aim at getting the effect of diffused light of day, and to leaving sunlight for special scenes.

To produce this the lights that I have described would be most serviceable, and could be adopted in nearly all the larger theatres. Their illuminating power and height from the ground would have to be adjusted to the requirements of each stage by careful experiments. As they are electric, they can be reduced in strength, or their colours changed with the greatest ease from behind the proscenium. Limelight from the dress-circle in no way takes the place of these lights. I saw this method in America, and felt it to be a failure. Thus, when the musical conductor and orchestra are sunk below the eye-line, the spectator should be impressed with a new and delightful sensation, that of being able to look right into the stage-picture without any object to intervene and irritate. Now the foreground of a stage-picture should be treated with the same care and knowledge that a painter treats the foreground of his picture. But, unless the footlights are abolished, the scenic artist's foregrounds can never be the beginnings of his stage-pictures. The fact is, instead of their being a help to him, he has perpetually to work against them.

Before passing further into the stage-picture I am anxious to pause and consider its frame, or, in other words, the proscenium.

I take it that the proscenium should be to the stage-picture what the frame is to the easel-picture. It should separate the picture from the surroundings. But the stage-picture, just as the painted picture, should in that case reach the frame. In most cases the proscenium is built so high that a considerable space has to be covered with curtains to make the opening in any manageable. Why is this so persistently done?

The architect will tell you something about its giving dignity to the proportions of the house, or tell you—which I suspect to be the real reason—that it is customary to build them in this way. And so, year after year, theatres are built without inquiring what may be the real function of the proscenium.

How funny it would be to send a picture to the Academy in a frame that was a foot too high for the picture, having the vacant space modestly covered with a bit of "Liberty silk." But is not the other just as ridiculous?

Now let us suppose a proscenium to be built according to the necessities of its function—namely, to enclose the whole stage-picture. Is this all that is required? No! for I have still a further change to suggest.

I suggest that the proscenium be made to contract and expand. And for this reason: Every good artist knows that the size of the canvas upon which he represents his subject has as much to do with the success of the work as the proper placing of the subject within that space. On the stage, however, with a fixed proscenium, the poor man's cottage, or the garret, have to be represented of the same size as a palace; a corridor in a castle wherein much plotting is done (generally by two people) must be of the same size of the banqueting-hall. Or a house is first represented, and then a room in that house—which room is much larger than the house. Thus the eye of the spectator is never properly prepared for the great climax scene, because the trivial incidents leading up to it have been represented on such a large and disproportionate scale. This contracting proscenium is in no way difficult to make, or to apply to theatres already built, and ought to be workable by one man. There are so many incidents in plays that come to one's mind in which only two or three actors appear on a scene requiring no depth that such a contrivance would be an inestimable boon to the scenic artist. But beyond this I look to the very foundation of composition in art, which, for the balance of the whole, requires not only the most careful consideration of parts, but demands that the human figure shall be made duly prominent. The scenic artist, by the aid of this contracting proscenium, could, with the collaboration of the stage and acting-managers, carry out all the laws that govern pictorial composition in art. There need be no fear that the occupants of the lower side boxes would see less than they do now, when the action happens to take place on their side. And as for the higher side-boxes—let them perish! In my model here, I work it simply with a left-handed and right-handed screw, thus enabling one man to make the sides of the proscenium come closer toghther. The upper part is arranged for a counter-weight action.

And now let us at least raise the curtain (to open from the centre, if you please), and take the stage and the making of the plastic picture into consideration.

The subject is so vast that I hardly know where to begin, especially as I hold the opinion, already hinted at, that the scenic artist can do his work but imperfectly without knowing the intentions of the stage and acting managers. Indeed it is hard for me to separate these three personages. Stage work is done, I know, and with marvellous results, with the author, stage-manager, acting-manager, machinist, and many more, all working in separate grooves, but such methods are mysteries to me. I have no right to address you on scenic art if you expect me to have been brought up in that school. On the other hand, I do not despair of being able to set you thinking from my standpoint.

However small my efforts in scenic art may have hitherto been, they have emanated from the inner consciousness of a painter; and I have a sly feeling, not unmixed with obstinacy, that I am on the right track for the scenic art of the future. Then I am bound to say that I have been favoured in many ways at Bushey for such experiment; first and foremost, in having nobody to give me advice; further, in having nobody to please but myself, there being no commercial element in my theatrical proceedings; again, in having men to work out my ideas who have had no training in stage work; and finally, in having a small and carefully selected audience who come by invitation predisposed to like what they see.

And so my whole efforts in stage work have been to realise a painter's view of nature, and that to the fullest. To accomplish this, it was necessary to include more than the mere lighting of the stage or the design of the scene—it had to embrace the very actions and movements of the actors.

That our pictorial methods of treating dramatic situations on canvas find favour with actors is shown in the fact that they frequently take hints from such works. I think the painters have hardly found the stage a fountain of inspiration for their art. Why, the very word "theatrical" is used as an expression of opprobrium when applied to a work of art. This again is not as it should be. The stage picture should call forth the highest powers of the painter. True, it is as perishable as the actor's art; but does the actor strive to make his art the less great because it perishes with him? Again, you may say it is an art of deception, and not of real merit, depending as it does on endless contrivances. But surely pictorial art is but another form of deception! In our art the painting of atmospheric effects and the rendering of luminous bodies are only accomplished by dint of endless "dodging" with paint.

Scenic art should in no way be held an inferior art, just as little as decorative art should be held secondary to the art of picture-making. I go further and say the greatest painters of the day should find some pleasure in such work, if only out of pure revenge for the inadequacy of our paints and canvases to reach some of the rare effects in nature. All art is a struggle with the inadequacy of our materials for expression. But in stage work the artist has more materials at his command than in any other form of artistic expression—that is, when tradition and conventionality shall entirely give way to the intellectual "grip" of the painter who devises and carries out the scene. Therefore, in urging pictorial consistency on the stage, I wish to see the presentment of nature as it is understood and appreciated by the painter's mind. You will have as many varieties of such appreciation of nature as there are men practising art. But all the better for the art of the stage, for such work would at least be stamped by the idiosyncrasy of the painter (who is a student of nature) rather than by the tyranny of tradition. This tyranny has declared it necessary for the actor's face to be lighted up at all hazards. Therefore moonbeams have to follow the actors round the stage; and I make bold to say that should two actors of prominence be on the stage at the same time, they would each have a moonbeam. Alas! for pictorial consistency. When the scenic artist has such pranks played with his work he may well despair. Why, in the name of sense and art, can't the actor get into the fixed rays of the moon when he wants his face seen? I should have thought voice and the action of the body, however indistinctly seen, would be fifty times more impressive than the traditional method, which is, after all, nothing more than a confession of weakness. Nor need the darkness be overpowering to be true. Let that be guided by the painter's art. Am I now arbitrary? Perhaps; and yet I firmly believe every important moment in an actor's part (when it should be absolutely necessary to see his face plainly), could be so arranged that light of some justifiable kind could be brought to play upon his face.

Now for some of the scenic artist's methods. Hearing that I was going to give a lecture on scenic art, a friend of mine remarked to me, "Oh, then you will tell us some of your methods." This remark had a curious effect upon me—for I immediately asked myself the question, Have I any methods? I have the one important method certainly, of going on experimenting until I get the effect I want. But I have not thought of the ways and means by which I obtained the results as methods; I should find it just as hard to say what were my actual methods in painting a portrait. Perhaps after a few more years of experimenting, I might be tempted to write a handbook on scenic art, just as we have hand-books on every imaginable subject. But the joy of my work would then be gone, as I should know too much. The great joy I now have in such work lies in the excitement of experiment. No doubt I get, as do all successful workers, instinctive feelings of how the desired end can be gained, and it was in this way that I came upon the idea of slightly modelling the distance, and of placing a great sheet of gauze in front of and away from the painted sky.

The effect, as I reflected, with which I have to open the scene (let us say of my music play, "An Idyl") is towards evening. The work in the smithy ceases soon after the rising of the curtain, and the old people sitting outside their houses sing their evening song.

Before the reapers return, the great harvest moon must appear over the distant hills, soft and warm in colour in the pink sky,—an effect in nature that deeply moves every imaginative painter, and which has been most nobly rendered by the painter, George Mason. With but little hastening of nature's time, the forty minutes of the act would be long enough to represent the last rays of the sun, casting the long shadows from the different objects on the distant slopes—time enough for the land to darken into that bewitching colour which is to be seen between the time of the setting of the sun and the rising of the moon. Then for the moon to increase in strength as it rises (correctly) into the sky, showing a halo of ever-increasing brilliancy as the whole scene darkens almost into night, when the curtain must shut off the picture from the eye of the spectator.

Now, I reasoned that a painted sky could not be changed in colour, and a painted distance could not first give me the long shadows and then the absence of all shadows. The other alternative immediately presented itself to me—of making the distance in relief strongly enough modelled to catch the light and cast the shadows. I came upon this as a natural inheritance, for my grandfather had already done the same thing, not for the stage, but for the church. He was by trade a mason, and by nature an inventor of the first order. His opportunities for the display of his inventive faculties were most limited, having had, from an early age, the care of the little farm property. But his artistic instincts were so strong that he set to work with his boys to make those little pictures in relief of figures, with complete backgrounds, that we still see in the churches of Southern Germany. The "Nativity" was a favourite subject. Hands and faces of the figures were carved in wood, and the draperies made of real material dipped in glue, which stiffened when dry. Trees were modelled partly with natural twigs and partly with mosses, and rocks and banks were all built up and coloured afterwards. In my boyhood, standing at the bench of my beloved father, I made many such pictures in relief, but my subjects were purely of a romantic character. I made forests with distant mountains to shut them in, and I carved the animals and I carved the hunters. Therefore modelling the distance in my play was simply to carry on the work begun and practised two generations before me. This modelled surface, properly lighted, appeared from the auditorium almost stereoscopic in its reality. For this modelling I used a mixture of plaster of Paris, glue, and stamped paper, sometimes adding tow. Then local colour was given with the ordinary tempora colours. Let me now for a moment leave the background and speak of the sky.

The sky was shut off by the houses to the right and left of the stage. This made it easy for me to stretch the gauze across the stage. From the backs of the houses I could play various limelights upon the front of the gauze surface which started from behind the hills in the distance, and, therefore, was free from it. It was made to lean forwards, so as to give opportunities for throwing lights upon the canvas of the painted sky which was behind it, and close up to the wall. This gauze produced an atmospheric effect far removed from the ordinary painted sky. No form of painting could have rendered the various tones of the sky so truthfully, no pigment could have equalled the colour I obtained by the illumination of the gauze by the lights passed through coloured glasses.

This surface of gauze is a perfect foundation for nature's grey in skies, that subtle tone which baffles us so much in painting; it is also a foundation for a soft blue, when the painted sky behind it is lighted up. With such a foundation of tones, which are not produced by means of a pigment on a flat surface, wonderful atmospheric effects can be obtained. As forms can be thrown upon the gauze surface by means of lanterns, clouds can be made to chase each other across the sky. From sunrise to sunset, from storm to calm, all sky effects can be produced with a mystery, and withal truth to nature, utterly denied to brush alone.

Having space on both sides of the gauze, the surface can be used as a transparent medium, to soften harsh colours, or as an opaque surface upon which colour and form can be thrown from the front. I see endless possibilities for startling work with this material—I see a possibility of bringing living people within the focus of a lantern so constructed that they shall be reflected back on to the gauze surface, and again be repeated innumerable times until the heavens would live with spiritual figures. If life were only not so short; if money were only more plentiful for such experiments; if somebody else would only do my painting work, I would produce a fairy phantasy such as man has only seen in his dreams.

And these are some of my dreams when I lie awake at night, for the love of stage-work lies deep down in my soul, a gift, no doubt, from my father, who, with his brothers and sisters, were all Passion Players, for that play is still performed in our native village in Germany every ten years since 1808, a village with its present 1,000 inhabitants, which boasts of a theatre costing them 600*l.* to build; but forgive me, I had forgotten, scenic art is my theme.

Now this atmospheric gauze sky is no dream. If I were building a new theatre in London I would arrange a gigantic gauze screen to be brought up out of the bowels of the theatre after the scene was set, and the principle of adjustment should be similar to that on breakfast dishes, whose covers turn back on a hinge and finally settle underneath. None but electric light, of

course, must be used near the gauze, and all the limelights must be carefully fixed. I am not sure, but I fancy such a gauze screen could be woven in the fireproof asbestos. That, however, is a detail. I have given you the principle.

In the magic-lantern, such as is used by scientific men, there are possibilities not yet dreamt of by the scenic artist, for his use of the ordinary lantern has not been carried very far.

When my "Idyl" was on, a well-known actor said to me, after having examined the scene on my stage, "We can't get this quality on our London stage." I understood perfectly what he meant, because he used a term that belongs to painters in speaking of art. I will not attempt to define "quality"; suffice it that its presence is felt as much as its absence in a work of art. But quality in scenic work is not obtained without the greatest attention to the lighting—to the concentration of light in order to bring out essentials and leave out non-essentials.

Daylight is not garish; and in no light in nature is every object fully lighted up at any one moment. Yet so crudely are lights—electric lights especially—employed, that every device, every artifice, is cruelly shown up, and then good-bye to quality. Brilliancy is not to be obtained by extravagant lighting, which can only result in garishness. Pictorial brilliancy is obiained by the very economy of light. Why are they so afraid of leaving some parts of the stage picture suggestive and indistinct, as we leave parts of our pictures? But for that, the actor's intentions must be made to harmonise quite as much with the intentions of the scenic artist as our painted figures are made to harmonise with the backgrounds of our pictures. It is always the painter, the painter, the painter, you see. You will have it dinning in your ears as you go away. But mark this, I do not consider the painter who merely designs the scenes by means of sketches to be worthy to rank with the great scenic artist, such a one as I have already described. Unless he actually carries out the work on the stage (with, of course, his assistants) he simply stands on the same level as the musical composer who does not score his own music for his orchestra.

Referring once more to my "Idyl," I felt the ground to be of such importance that I built up an uneven surface to imitate an old street, and I carved the cobbles. My purpose in doing this was a double one, to help me in the lines of the composition, which would have been very bad had the houses started out from the flat stage, and to prevent my young performers from attempting the so-called stage walk.

Such additional or upper surfaces for various stage grounds could easily be made and kept in stock. They would bring us another step nearer to artistic consistency. I shall never forget seeing Ophelia, in an open-air scene, lie down on the bare boards of the Opera House in Paris. Of course the poor Ophelia was mad, or she never could have done such a thing. By these upper surfaces, I do not mean soft rocks that are like bags and give way to the touch. In that great work "Parsifal," as performed at Bayreuth, they have in one scene trees starting out from the flat stage boards, and on one side a soft rock, just big enough to take one of those large ladies who take the part of Kundry. She throws herself upon this rock in a paroxysm of despair, and has her work cut out not to roll off on the other side.

Now, I fear it would be somewhat difficult, if not altogether impossible, to get the longed-for perfection or to get that particularly desirable quality into the scenic work when plays have to be changed frequently. For that purpose I have in my mind to experiment with a system of obtaining form and colour by means of powerful lanterns—in short, to reflect nearly the entire scene instead of painting it. Great care would have to be taken not to get the actors reflected as well. But I do not see this as an insuperable difficulty. Here I merely throw out the hint for some clever artist to take up and complete.

And now, in conclusion, a word about my moon. A round tin box, that was shut at the back and open in the front, was first made. I placed three electric lamps within, and closed the front with a lens. Over the lens I placed tissue-paper, upon which I painted the mountains of the moon. This box worked on two wires secured to the painted sky, behind the gauze. The upward movement of the moon-box was effected by means of a lever very slowly worked by a man. As the contrivance was some 4 ft. behind, and away from the gauze, neither the wires upon which it moved, nor the electric cord hanging from it, were visible through the gauze. But the light of the moon through this atmospheric medium was truly bewitching. I reduced the electric lights to a mere glow for the rising of the moon, which produced the right colour, and then gradually increased the electric current as the moon rose in the slowly-darkening sky. Why the light passing through the gauze caused a halo round the moon I cannot tell. There it was, and that's enough science for me.

And now I have but to mention that this moon never rises out of Bushey.

The President said that, agreeably with Professor Herkomer's request, there would be no vote of thanks and no discussion that evening. This was certainly a subject upon which architects ought to have a good deal to say, and perhaps they might be aware that scenic art, as they now understood it, was originally invented by an architect in the early part of the sixteenth century. If there were any suggestions or criticisms on this most interesting and entertaining paper, he would suggest that they should be sent as soon as possible before the 15th of the month for the next issue of the Architectural Association *Notes*. There was one further subject in which they all took a great interest, viz., that of the Trinity Almshouses in the Mile End-road, and, as a resolution was passed at the last meeting, no doubt they would wish to hear something further upon the matter. He was afraid, however, that he could not give them any further information than what had already appeared in the Press. The matter was now entirely in the hands of the Charity Commission, but the evidence elicited at the inquiry lately held was exceedingly valuable, and very favourable to the retention of the Almshouses. They owed a deep debt of gratitude to Mr. Penrose and Mr. Macvicar Anderson for the loyal way in which those gentlemen had gone to work, having both spent two whole days down at the Mile End-road. All of them were exceedingly anxious for the retention of these most valuable examples of what Mr. Penrose considered Sir Christopher Wren's work, and would feel a debt of gratitude to those gentlemen. He could only hope that the evidence tendered by them would have the effect of preserving these Almshouses.

The President announced that at the meeting to be held on the 20th inst. an entirely new departure would take place, when they would have papers from artisans upon subjects connected with building, namely, by Mr. R. Rust on Woodwork, and by Mr. J. Toomey on Brickwork.

The proceedings then terminated.

MAGAZINES AND REVIEWS.*

THE *Gazette des Beaux-Arts* publishes an article on Hokousaï, the Japanese artist, by M. Edouard de Goncourt. M. Maurice Maindron concludes his article on the Armoury at Madrid, dealing with the swords, of some of which illustrations are given. The article on Huet, the painter of animals and "Chinoiseries," is concluded. M. E. Bertaux contributes an article consisting of a review of M. Enlart's book, "Origines Françaises de l'Architecture Gothique en Italie." M. Bertaux thinks that the origin of Italian Gothic has been somewhat misunderstood in consequence of the earliest examples lying a good deal out of the beaten track; he gives an illustration of the church of Fossanova, consecrated in 1208, as a typical example; but we think the "French origin" in this will be hard to find except by those who intend to find it.

The *Revue des Deux Mondes* publishes a long article by M. de la Sizeranne on "La Religion de la Beauté," which is really an elaborate panegyric of Ruskin, who would be the last to accept the creed implied in the title. The French have just discovered Ruskin, and are doing all the proselytism over again a quarter of a century after date.

In the *Art Journal* Mr. Montbard continues his illustrated article on "The Sacred Island of Philæ." "The Lily in Art" is an interesting subject treated by Mr. L. B. Thompson, with illustrations by the writer; the illustrations include Japanese and Assyrian treatment of the flower as well as European. Mr. James Orrock contributes an article on Constable.

The *Architectural Record* has a very largely-illustrated article on the works of the late R. M. Hunt, giving views of a number of houses designed by him: this article and the illustrations form in fact the principal contents of the number, and are a fine memorial to an eminent architect.

The *Studio* (November) contains an article by Mr. Baillie Scott on "The Fireplace of the Suburban House," from the illustrations to which we should think that the suburban fireplace was likely to smoke a good deal, but we have the authority of the late Mr. Richardson (the eminent American architect) for thinking that of no consequence so long as the fireplace looks well. The general style of work suggested has too much of the affectation of Mediævalism about it. An article on "Incised and Embossed Leather-work" gives some good illustrations of what can be done in this class of decorative work.

The Engineering Magazine contains a very well-illustrated article by Mr. E. C. Gardner, on "School and School-house Architecture," to which we may return.

The *Nineteenth Century* contains an article (written in French) by M. Charles Yriarte on "Delacroix et les Peintres de l'École Anglaise," in relation to the recently published memoirs of Delacroix, who had visited England a good deal, knew the works of the leading English artists of his day, and had noted down various opinions on English art. M. Yriarte of course treats the subject in an interesting manner. This is followed by a conversation-article by Mr. Frederic Harrison, between an admirer and a non-admirer of Ruskin, Mr. Harrison apparently identifying himself with the former: the subject is nowadays rather out of date.

Blackwood publishes an exceedingly interesting and lively article on "Oxford in Fact and Fiction," but in his almost unmixed condemnation of the new buildings at Oxford the author shows less judgment and perception than in the social portion of his article. We agree with him, we must confess, as to "the huge barrack of red brick called Keble College"; but in general Oxford has been far more fortunate in its new buildings than most essentially antique cities where modern architecture has been unavoidably obtruded.

Le Monde Moderne, as usual, devotes a large amount of its space to artistic subjects, including an illustrated article on M. Fantin-Latour, the French painter who most nearly resembles Mr. Watts in his manner, though not in class of subject or in feeling; one on the Château of Versailles, with illustrations; other subjects being "Coins de Venise" (illustrated), "Le Couvent de Carmes," an old building likely soon to be demolished to make way for modern street improvements in Paris, and "Aërostation Militaire," which, in spite of the limiting adjective, may be generally interesting to scientific men who are concerned with aërial transit.

In the *Revue Générale* the Comte Conrad de Buisseret gives an architectural and social sketch of Washington; and we have had the seat of American Government described so often by American writers that there is some interest in seeing a French view of it. M. de Buisseret is struck by the quiet of Washington, "capitale silencieuse d'un Etat gigantesque tout fait de bruit, d'argent, et de commerce, comme un sanctuaire construit au milieu d'un quartier marchand"; and he regards the Capitol as, though wretched in its details, imposing from its general form and dimensions. The French inability even to copy English words correctly comes out more than once in the article, as where the President's abode is described "la célèbre *Withe Lodge* ou 'Maison Blanche'" (!)

In the *Gentleman's Magazine* Mr. Percy Fitzgerald's "Travels to the Source of the New River" may suggest to some London residents a walk which few of them probably have ever taken, and the exploration of a stream which is not without its historic interest.

While *Blackwood*, as above noted, writes of the Oxford of the present day, *Macmillan* gives us a sketch of "Oxford in the Thirteenth Century," dealing with ancient topography as well as ancient customs.

In the *National Review* Lieut. Baden-Powell describes a new aërial conveyance of his own, the "Air-car, or Man-lifting Kite." There are unfortunately no illustrations.

The *Fortnightly Review* contains an article by Mr. H. H. Statham, on "Mendelssohn—A Critical Estimate," which may interest some of our musical readers. It is to some extent a protest against the fashionable depreciation of the composer.

Harper has less than usual of artistic interest, but the article "From the Hebrid Isles," with illustrations, will interest those who have not visited the islands, or who think of doing so.

Scribner devotes a long article, with a number

* The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.

of beautiful illustrations, to the life and works of Mr. Tadema. The engraver treated of in the serial article on wood-engravers is Lepère, the illustrations being engravings by Lepère from his own drawings. These are fine and masculine works in which *line* is strongly emphasised; we confess however that we do not see the meaning or beauty of the lines drawn through the sky in the frontispiece engraving of Nôtre Dame, Paris. They seem suggested by an eccentricity of Rembrandt's.

In the *Century* an article, with numerous illustrations, is devoted to M. Tissot's illustrations of the "Life of Christ," which to many persons will afford the first idea of this rather remarkable effort to give a new pictorial reading to the subject. M. Tissot seems to have aimed at combining realism of fact with emotional expression. It may be questioned whether he has not overdone the realism in some scenes, but nevertheless it is a remarkable effort in illustrative painting, and should be better known than it is.

In the *English Illustrated Magazine* a short topographical article, "From Barnet and from Barnet Field," is illustrated with some sketches by Mr. Herbert Railton, which have not, however, cost their author much trouble. An article on the "Legion of Honour" may be of interest to some of our readers who hear a good deal about the bestowal of its insignia on architects, artists, and other men who have distinguished themselves; and it is just as well to understand foreign official grades of honour, though this particular one, we believe, is only bestowed on Frenchmen by birth.

The *Bulletin de Correspondance Hellénique*, including the nine months from January to October of the present year, is chiefly occupied with a record of the excavation work at Orchomenos.

The *Journal of the Royal Society of Antiquaries of Ireland* (quarterly) continues Mr. Coffey's paper on the origin of Prehistoric ornament in Ireland, and a considerable portion of the number is occupied by the record of the Galway meeting in July, with articles on the islands of Aran, and on Galway, which are of considerable interest.

The *Journal of the Sanitary Institute* (quarterly) includes Dr. Reid's important paper, and the discussion which followed it, on "River Pollution."

In the *Essex Review* the Essex Church illustrated and described is the very pretty and picturesque St. Thomas the Apostle, Navestock, with its timber-tower and spire and partially timber piers in the nave. It is a most interesting little church, and deserves more attention than it has received.

The Quest is as absurdly sham-Mediæval as ever, and appears with the impossible figure on the cover, of which we gave a reduced copy on page 291; nor can we see any value in the literary contents. The purchaser will get some good bits of decorative borders and head-lines for his half-crown, and that seems about all.

Cassell's Family Magazine includes a historical article on "St. James's Palace," with illustrations; and another on "Pictures from Russian Studios," with a good many illustrations from works not much known in this country.

"The Foundling Hospital" and "Trinity House" form, in the *Windsor Magazine*, the subjects of two of the illustrated descriptions of buildings of historic interest, which are perhaps among the best of the novel features in periodical literature.

We have received the Christmas number of the *Queen*, which shows a liberal supply of literary matter—some of it good—and some clever engraved illustrations, especially those to a story of Bret Harte's. We always wish that ladies' papers would set a better example in their fashion-plates, and not draw females with such exaggerated and impossibly small waists, which would be hideous even if they were possible.

No. 27 of "Pictures from *Punch*" is an unusually good number, and contains many admirable old "Leeches" and "C. K.'s."

The Christmas number of *St. Nicholas*, the "young folks'" journal, is a very good one, and includes among its illustrations some really clever and charming things.

ROYAL ACADEMY SCHOOLS:

LIST OF PRIZE-WINNERS.

THE annual distribution of prizes to the students of the Royal Academy of Arts took place at Burlington House on Tuesday, Sir F. Leighton, P.R.A., presiding.

Sir F. Leighton, in opening the proceedings, said that on previous occasions he had delivered to them a Presidential Address, which had caused them for some time to feel a natural anxiety as to the results of their competitions. Last spring, however, among many acts of kindness which he had received at the hands of his brother members, in view of his health, they had requested him to abstain from the arduous labours of preparing and delivering an address, and he would therefore simply ask the Secretary to read the fateful list.

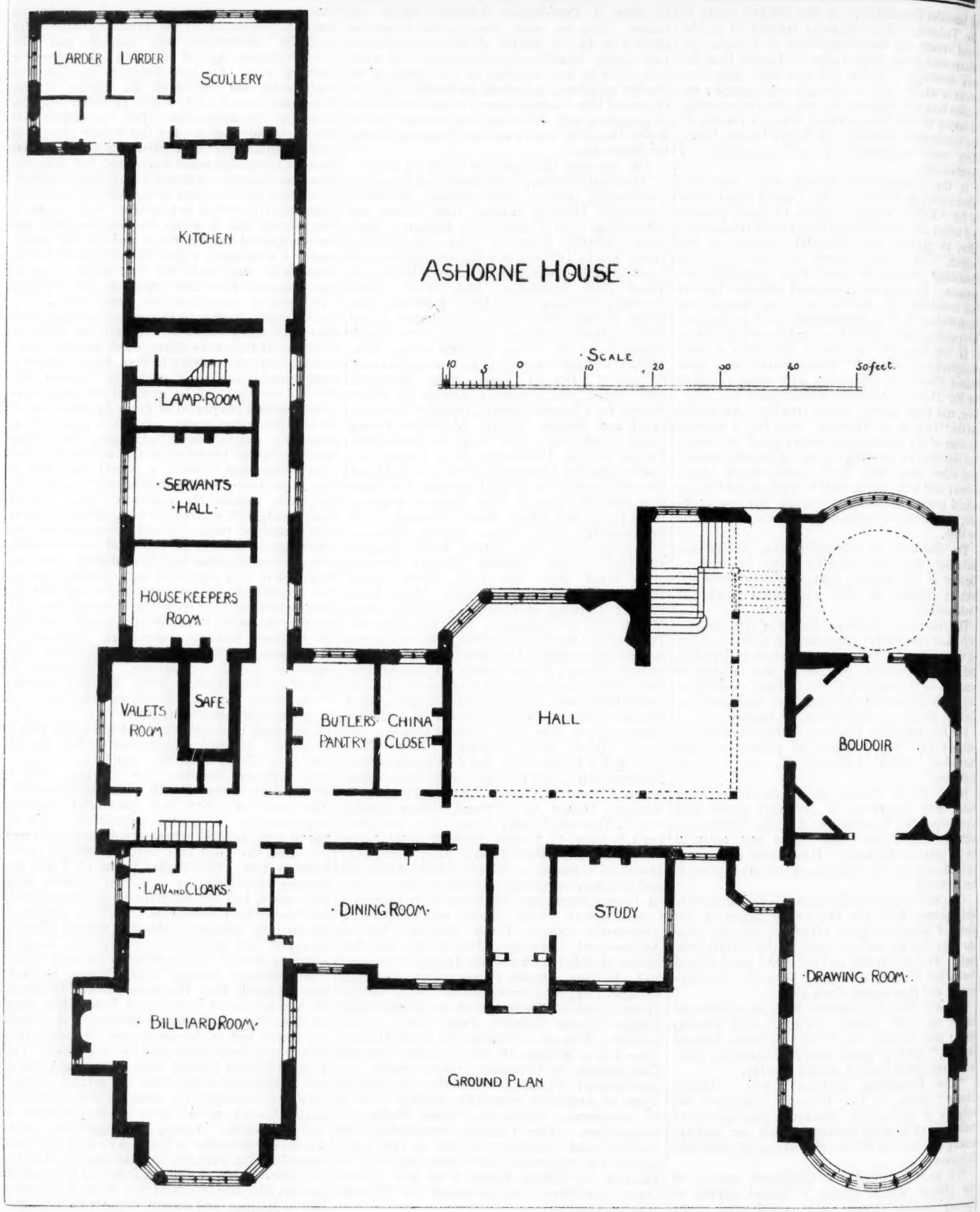
The Secretary then read the following list:—

Historical Painting, Gold Medal and Travelling Studentship (200*l.*), Harry Robert Mileham; Landscape Painting, Turner Gold Medal and Scholarship (50*l.*), Cecil Ross Burnett; Landscape Painting, Creswick Prize (30*l.*) Edward Harry Read; Painting of a Figure from the Life (open to Male Students only), Silver Medal, 1st, Victor John Robertson; 2nd, Owen Baxter Morgan; Painting of a Head from the Life, Silver Medal, 1st, Cecil Ross Burnett; 2nd, Arthur Huish Webber; Painting of a Draped Figure (open to Female Students only), Silver Medal, 1st, not awarded; 2nd, Rose Livesay; Cartoon of a Draped Figure, Silver Medal and Prize (25*l.*), not awarded; Design in Monochrome for a Figure Picture, Armitage Prizes, 1st (30*l.*) and Bronze Medal, Alexander George Small; 2nd (10*l.*), Niel Kenneth McKechnie; Design for the Decoration of a Portion of a Public Building (Autumn), Prize (40*l.*), Harold Edward Speed; Set of Six Drawings of a Figure from the Life (open to Male Students only), 1st Prize (50*l.*) and Silver Medal, Bernard C. H. Schumacher; 2nd, (25*l.*), Shirley Chas. L. Slocombe*; 3rd, (15*l.*), Owen Baxter Morgan; 4th (10*l.*), John Shenton Eland; Drawing of a Head from the Life, Silver Medal, 1st, Rose Eveline Clark; 2nd, Mary Isabel Phelps; Drawing of a Statue or Group, Silver Medal, 1st, not awarded; 2nd, not awarded; Perspective Drawing in Outline (open to Painters and Sculptors only) (The Small Cloisters, Westminster Abbey), Silver Medal, no competition; Composition in Sculpture (Dædalus and Icarus), Gold Medal and Travelling Studentship (200*l.*), Francis Derwent Wood; Model of a Design (Captives), 1st Prize (30*l.*), Charles Beacon; 2nd (10*l.*), Alfred Bertie Pegram; Set of Three Models of a Figure from the Life (open to Male Students only), 1st Prize (50*l.*) and Silver Medal, Francis Derwent Wood; 2nd (20*l.*), Charles Beacon; Design for a Medal: Silver Medal, Francis Derwent Wood; Model of a Bust from the Life (open to Female Students only), Silver Medal, 1st, not awarded; 2nd, Mary Towgood; Model of a Statue or Group, Silver Medal, 1st and 2nd, no competition; Design in Architecture (A Town Church, the Plan to be in the form of a Greek Cross), Gold Medal and Travelling Studentship (200*l.*), Pieter Rodeck; Set of Architectural Drawings (The Horse Guards), Silver Medal, 1st, Archibald Haswell Christie; 2nd, William Hawke; Set of Architectural Designs (Upper School), Prize (25*l.*), George Weald; Set of Drawings of an Architectural Design (Lower School), Prize (10*l.*), Pieter Rodeck; Plan of a Building (A Club House), Prize (10*l.*), William H. Edw. Brown; Original Composition in Ornament, Silver Medal, no competition; Perspective Drawing in Outline (open to Architects only) (An Interior View of St. Stephen's, Walbrook), Silver Medal, no competition. The Landseer Scholarships in Painting and Sculpture, of 40*l.* a year each, tenable for two years, have been awarded—in Painting to Charles Henry Sims and Francis Owen Salisbury; in Sculpture to Clement William Jewett.

* Disqualified owing to having received the same prize before.

THE SANITARY INSPECTORS' ASSOCIATION.

THE last monthly meeting for the year of this Association was held on Saturday last, at Carpenters' Hall, London Wall, Mr. H. Thomas (Chairman of Council) presiding. A paper was read by Mr. Jones (Inspector, Lambeth Board), on "The Public Health Acts, with Suggestions for their Amendment." From the many Acts of Parliament which placed such multifarious duties upon the sanitary inspectors, from the detection of unwholesomeness and disease in meat or of adulterations in food and drugs, to the inspection of drains and of dwellings, varying in importance from the mansion to the canal-boat, the lecturer selected three Acts for consideration in the paper. The first was the Metropolis Local Management Act (1855), which gave such full powers to Local Authorities in regard to the drains on new property, that it became a matter for astonishment that so large a proportion of the existing drains were radically defective; the second was the Public Health Act of 1875, which formed a sanitary code for all England outside the metropolis, and the third the Public Health (London) Act of 1891, which provided a similar code for the metropolis. The last-named Act obviously intended to give the fullest powers of dealing summarily with nuisances and for their prompt abatement when discovered, but from one cause or another, or rather from a great diversity of causes, the intentions of the Act had been very inadequately realised in practice. Two weeks is the shortest time in which the most energetic and best-supported inspector can enforce the abatement of a nuisance, which the Act intended to be summarily dealt with, but long delays arise, as the inspector must first report to the Sanitary Authority (a committee that meets once a fortnight, once a month, or in summer, perhaps, once in two months), before he can serve his statutory notice. If this were disregarded, another notice must be served involving further delays, before a magistrate's summons could be applied for. Should the summons be granted, the magistrate might extend the period of grace by three, six, or even nine more weeks, so that a negligent or obstinate person might take more than three months before he set about this so-called "summary abatement," while a person who was at the same time "rich and obstinate" might, by litigation, extend the period of grace almost indefinitely. The same red tape, circumlocution, and waste of time, he said, characterised the procedure in many other important matters which the sanitary inspector had to deal with. He was required to be a competent and qualified person, but before he could bring his knowledge and his competence to bear upon the situation, he must obtain permission to act from a board consisting of butchers, bakers, bootmakers, blacksmiths, bricklayers, and tradesmen of other kinds, who have no special competence. The climax of absurdity was reached when the law allowed "any person" (other than the sanitary inspector) to go straight away to a justice to make a complaint which he might there and then deal with if he chose. It was surely an anomaly that anyone not a qualified inspector could be invested with greater facilities for carrying out a Health Act than Health Officers themselves. The Act of 1875 left provincial sanitary inspectors in a similar anomalous position, but in some districts where progressive ideas had prevailed, the local acts were in advance of the London Acts. With regard to the 1855 Act, the lecturer attributed the fact, that London, after forty years, had still defective drains innumerable, and houses with basements subject to periodical floodings by sewage, to the dual control given to surveyors and sanitary inspectors, who, in most districts, divided the supervision between them. The combined drainage difficulty was, he said, another result from the same cause. Islington, St. Martin's-in-the-Fields, and West Ham were cited as districts in which thousands of pounds per annum had to be spent now on repairs that should have been made good by the owners. The London County Council were promoting a Bill to relieve local authorities from the serious position they find themselves in, owing to their surveyors having failed to advise them in every instance to make an order. Among the suggestions made for the improvement of the Health Acts and their administration were, the appointment of a Minister of Public Health, security of Tenure of Office, with salaries adequate to attract men of good education and experience, and certain improvements in procedure. It would often be a great advantage to the owner or occupier to have a statement put on the first notice showing what he was required to do. He could then easily get tenders for the work or estimates of cost which would relieve him from the dread of unknown costs which he generally now feels when he received a notice.—The usual discussion followed on the proposal of a vote of thanks, in which Messrs. Addison (Streatham), Lightfoot (Chelsea), Bush (Epping), Legg (Hackney), Young (Battersea), Grigg (Fulham), Jacklin (Maidstone), Kelf (Bethnal Green), Alexander (Shoreditch), and the Chairman took part. Mr. Legg stated that in a case he had had to deal with in Hackney, he had served a notice upon the owner of the property where the nuisance was, and when the case was heard in court it was adjourned for twenty-eight days. At the expiration of that time when the case was brought to the court it was adjourned for another twenty-eight days. The nuisance had therefore been going on for fifty-six days before any steps were taken in the matter. Mr. Thomas,



before putting the motion to the vote, wound up the discussion with the observation that the sanitary inspector was working for the public good, but that the public did not seem to be yet fully aware of the fact. The vote was accorded with acclamation.

Illustrations.

SILVER ALTAR-CROSS, SALISBURY CATHEDRAL.

THE total height of the cross, including the new stem and base, is 4 ft. 2 in. The cross itself, which dates from the sixteenth century, was purchased by Mr. E. Doran-Webb, on behalf of the Chafyn Grove Memorial Committee, from Mr. Lambert, of Coventry-street. It is of beaten silver, mounted on a wooden core, and measures 25 in. by 24 in.; it was formerly used as a processional cross, and still retains the catches for the little silver bells which hung from the head and the ends of the arms. On each side of the cross are five raised plaques of silver-gilt. On the front side the subjects represented on the plaques are as follows:—In the centre is the Blessed Virgin supporting the infant Christ, her feet resting on a crescent; on the right and left are the Mater dolorosa and St. Joseph; above these is the "pelican in her piety," the emblem of the church, and beneath is our Lord rising from the tomb. On the reverse side of the cross the central plaque bears the sacred monogram I.N.R.I., and on the plaques to the right and left of it, the one bears the figure of St. Luke with his emblem the bull, the other St. Mark with the lion, St. John with his emblem the eagle is represented in the plaque above the monogram, and below is St. Matthew with a ministering angel. The new work, carried out from the designs of Mr. E. Doran-Webb, F.S.A., by Messrs. Barkentin & Krall, of Regent-st., commences with a canopied knop 6 in. high by 4 in. wide, containing four niches, each of which s occupied by the statuette of a saint. The four saints represented are St. Aldhem, holding a model of his church; St. Osmund with the Sarum Use in his hand; St. Edmund (Archbishop) making a vow before a figure of the Virgin; and St. Thomas of Canterbury, wearing the pallium, and bearing his Archiepiscopal cross. The foot of the knop is set on a twisted stem, which, in turn, is carried down to an octagon, the latter rising from a chalice-shaped foot, supported by four claws. Round the lower rim of the base is the following inscription written by the Bishop of Salisbury:—

IN HONOREM CRUCIFIXI ET IN USUM ECC'LIÆ B.M.V. SARISB' HANC CRUCEM OPERIS HISPANICI IN MEMORIAM JULIÆ ELIZIBETHÆ CHAFYN GROVE QUÆ OB: XXVII. DIE NOV. A. S, 1891.

D. D. P. AMICI ET CONSANGUINEI.

"AETERNA FAC CUM SANCTIS GLORIA MUNERARI."

THE HALL, ASHORNE HILL HOUSE.

THIS house is built on rising ground about four miles from Leamington. The materials used

Proposed Cottages at Harrow.—Plan.

are Honiton stone for the walling and Milton stone for the dressings, with red tiles for the roofs. The reception-rooms are to be panelled with oak, of which the staircases, galleries and floors are also made. Messrs. Parnell & Son, of Rugby, are the contractors, and Mr. Chappell is the clerk of works. The architect is Mr. E. Goldie, of London.

The illustrations comprise the complete plan of the house, and the perspective view of the interior of the hall. The drawing from which this is taken was exhibited at the last Royal Academy exhibition.

STABLES, SHAW HILL, WILTS.

THESE stables have lately been completed. They are built in Weal-stone, and the roofs covered with stone tiles partly collected from old buildings and partly new, the latter being difficult to get new in this neighbourhood. The builder was Mr. H. Hoskings, of Hungerford, and the architect Mr. E. J. May, of London.

PROPOSED COTTAGES AT HARROW.

THESE cottages were designed to form part of a large philanthropic scheme to provide homes for young married men of the working class.

The intention of the author was to group the cottages not only in blocks of two and three together, but also to form several quadrangles with buildings round three of the sides.

One of the quadrangles is here shown. Each cottage contains a parlour, kitchen, &c., and four bedrooms. The materials to be of red brick, with tiled roofs, plaster being freely used on the exterior of the upper floors and gables.

The perspective view, which appeared in this year's Academy Exhibition, was kindly executed for me by Mr. H. Wilson.

T. PHILLIPS FIGGIS.

HOUSE NEAR LEICESTER.

THIS house was built about twelve months since at Knighton, a suburb of Leicester, from the designs of Mr. James Ransome, architect, of London. Messrs. J. E. Johnson & Son of Leicester were the builders; the plumbing and sanitary work was executed by Mr. Arthur Biggs, and the ranges and hot-water fittings by Messrs. Pochin & Son: all of Leicester.

The hall staircase and landing are panelled in dark wood. The reception-rooms face south and communicate with each other by a verandah. The exterior materials are brick, with red tiles for the roof.

LANCASHIRE FEDERATION OF BUILDING TRADE EMPLOYERS.

THE half-yearly meeting of this Federation was held at the Devonshire Hotel, Blackburn, on the 3rd inst. The President, Mr. John Fecitt (Blackburn), was in the chair, and there were present representatives from Accrington, Blackburn, Bolton, Burnley, Chorley, Colne, Nelson, Oldham, Preston, and Rochdale. The minutes of the first general meeting, held at Accrington, in June last, were read and confirmed, and the Report of the Executive Committee unanimously adopted. In their report the Committee referred to the progress made during the half-year, which they regarded as satisfactory. Two local associations, Oldham and Burnley, had joined during that period, and meetings had been held in the Bury and Heywood district, and in Ashton-under-Lyne, Stalybridge, &c., which were expected to result in an early accession of strength. Their secretary (Mr. J. Tomlison, Preston), was in communication with the principal towns in the county not at present affiliated, and no efforts would be spared to form a strong association. The relations between employers and operatives in the federated towns during the last six months were also reviewed, and the committee were able to congratulate members on the benefits employers had already derived from the Federation.

A recommendation to amend the Rules was referred back to the committee for further consideration, on the motion of Mr. W. Cunliffe, Bolton.

On the motion of Mr. R. Highton, Blackburn, it was resolved to adopt the Conditions of Contract issued by the National Association of Builders, for use in those towns not having an approved form at present, and in view of recent judicial decisions with respect to the liability of employers as regards bound apprentices, the secretary was instructed to submit a form of indenture for counsel's opinion and bring the same before a future meeting for adoption. A uniform system of quantity surveying and treatment of prime cost sums in quantities was thought to be desirable, and the committee were directed to take the matter into consideration and report to the next meeting what steps it was desirable to take.

Notices for changes in wages or alterations in working-rules pending at Accrington, Blackburn, Bolton, Nelson, and Preston were considered; reports were received from representatives respecting the action proposed to be taken as to craneage charges by railway companies; and other matters of trade interest were discussed. A vote of thanks to the Chairman, proposed by Mr. S. Smethurst, Oldham, and seconded by Mr. Whittaker, Accrington, was acknowledged, and the meeting terminated.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring Gardens, Sir Arthur Arnold, Chairman, presiding.

The Superintending Architect.—The report of the General Purposes Committee contained the following paragraph, the recommendation being agreed to without discussion:—

"We have had before us a letter, dated November 13, 1895, from Mr. T. Blashill, the Superintending Architect, intimating that he will attain, early this month, the age of sixty-five years. Mr. Blashill was appointed by the late Metropolitan

Board of Works in February, 1887, and he has thus served nearly nine years. He points out that when the office of Superintending Architect was last vacant the Board found it necessary to advertise twice, and that on the second occasion the maximum age limit of fifty years previously prescribed was withdrawn, thus throwing the appointment open to gentlemen like himself who were over fifty years of age. The standing order as to the retirement of officials at sixty-five was not made until some years after his appointment. Mr. Blashill's case is a peculiar one, but apart from that we hold the opinion, in which we believe the Council will concur, that Mr. Blashill's services are of such value that his retirement at the present time would be a serious inconvenience to the work of the Council. We think, however, that the time has arrived when the organisation of the Architect's Department should be reconsidered, and we suggest that a reference should be made to us for the purpose. We recommend:—

'That, as the retirement of Mr. T. Blashill would cause inconvenience to the public service, he do continue to hold his appointment for another year, and that it be referred to the General Purposes Committee to report what (if any) changes in the work of the Architect's Department it is now desirable under the circumstances to make.'"

Proposed Main-drainage Extension. — The Main Drainage Committee brought up a long report on the question of the main-drainage of London on the north side of the Thames. The report commenced with a brief outline of the general features of the main-drainage system of London and then proceeded as follows:—

"In the early days of the Council there was considerable difference of opinion on the subject of the main-drainage, and it was questioned whether the mode of chemical precipitation was the proper mode of dealing with the sewage, and whether it would not be a wiser course to discharge the whole of the drainage of London at some point on the coast of Essex. This, among other things, raised the whole question of the pollution of the river and the subject of flood prevention. At that time the complaints of flooding in wet weather, especially in the Isle of Dogs, were so frequent as to seriously engage the attention of the Council. This agitation resulted in the Council determining on December 17, 1889, to secure the services of an eminent civil engineer to join the Chief Engineer of the Council in a full examination of the whole system. In accordance with this resolution, Sir Benjamin Baker and Mr. Binnie made a thorough and careful inquiry, and their joint report, dated 19th February, 1891, was in due course laid before the Council. This report deals with (1) the present condition of the main drainage system on both sides of the river; (2) the chemical treatment of sewage, then just inaugurated at Barking; (3) the condition of the river Thames; (4) the new works necessary in order to bring the existing main drainage system up to present requirements, and to provide for future increase; and (5) the question of new outfalls, either at Maplin Sands or in Sea Reach. The engineers pointed out that the discharge of sewage into the sea on the Maplin Sands would probably entail an expenditure of eight millions in capital and an annual charge of 80,000*l.*, and that to take the effluent flowing from the north side of the Thames to Shell Haven at the top of Sea Reach would very likely cost about 1,600,000*l.*, with a probable addition of 40,000*l.* if a portion of the sewage from the south side were carried forward to Sea Reach, together with an annual expenditure of 50,000*l.* in maintenance. They strongly advised that the mode of treatment by chemical precipitation at Barking and Crossness should be carried to completion before any further expenditure was incurred in removing the outfalls to more distant sites; and they expressed the opinion, which has been more than confirmed by subsequent experience, that the discharge of properly clarified effluent into the Thames at Barking and Crossness would be attended with the most beneficial results. As regards the works necessary to make the present main drainage system more effective, and to prevent more entirely the pollution of the river, they reported that the works as originally designed had become overtaxed on account of the increase of population, and that the storm outlets into the Thames were brought into operation whenever the rainfall amounted to one-tenth of an inch. It was also pointed out by them that the two main outfall sewers from Old Ford to Abbey-mills were incapable of receiving the full quantity brought to them by the high and middle level sewers, and that the discharging power of these two outfall sewers, with that of the low-level sewer, exceeded the capacity of the three large outfall sewers into which they poured their sewage, extending from Abbey-mills to Barking. To remedy these defects, they proposed that, in addition to the existing outfall sewers from Old Ford to Barking, two new outfall sewers should be constructed parallel with them, and that to prevent the sewage from the higher parts of northern London flowing into and surcharging the already overtaxed middle and low-level sewers, a new intercepting sewer should be constructed, extending from Paddington to old Ford. Dealing with the Isle of Dogs, they suggested the cutting off of this area from all connexion with the low-level sewer and the construction of an independent sewer to carry the sewage from the Isle of Dogs to the Abbey Mills pumping-station, for which independent pumping power should be provided. The works proposed by them on the north side of the river were roughly estimated to cost 920,000*l.*, made up as follows:—New outfall sewer, Old Ford to Barking, 620,000*l.*; new intercepting sewer, Paddington to Old Ford, 245,000*l.*; separation of Isle of Dogs and Hackney Wick branches, including pumping engines, 55,000*l.* On March 10, 1891, we reported that in our opinion the proposals for improving the existing system of main drainage were of so urgent a character that no delay should take place in acting upon them, and we recommended that detailed plans of the new sewers should be prepared. This recommendation was adopted by the Council on April 14 following, with a proviso that a further report should be obtained having reference to (*a*) the separation of the rainfall from the sewage in districts where it might be practicable; (*b*) the more complete prevention of overflow of storm-water into the Thames and Lea; and (*c*) the better purification of the river. With regard to (*a*), it may be stated that it was dealt with in the report of Sir B. Baker and Mr. Binnie, and that such a proposal, involving as it would do a double set of drains and sewers in every street, would, if carried out, cost about twenty millions sterling. As regards (*b*) and (*c*) we have since this matter was before the Council applied ourselves to the endeavour to fulfil the desire of the Council. The Council has already upon our recommendation carried out with great success the recommendation in the joint report which dealt with the sewage of the Isle of Dogs, and from time to time various other works have been constructed. In addition to these works are the construction of a new sewer in The Grove, Hammersmith; a new storm-relief sewer in Hackney from Mare-street to Mornington-lane; the improvement of the Lime-kiln-dock sewer; the reconstruction of the Irongate sewer; the extension of the relief sewer from Hackney to Holloway; and the extension of the Fleet storm-relief sewer to Hampstead. At the present time the Council is constructing a sewer between Hammersmith and Walham Green, about 6,700 ft. in length. These sewers for the most part take a northerly and southerly direction and are in addition or supplementary to storm-relief lines and storm overflows constructed by the late Board; consequently, they have the effect of increasing the flow of sewage into the Thames during rain. The engineers, in their report of 1891, point out that it is not so much the discharge of sewage in times of heavy rain which pollutes the river, the sewage at such times being so diluted that little harm can accrue; danger is to be apprehended more from the continued discharge on days of slight rainfall. The Chief Engineer has always said, when the question of constructing relief sewers has been under consideration, that he could only recommend them on the condition that the main intercepting sewer recommended in the joint report should also be constructed, as relief sewers without the additional intercepting sewer would merely accentuate the defects complained of. They would in course of time involve a partial return to the system of direct discharge into the river, for the prevention of which the late Board of Works was constituted and the main drainage system established. In reports dated 15th February, 1894, and 17th October, 1895, the Chief Engineer has again called our attention to the necessity of at once undertaking the works required on the north side of the Thames, and he gives, as some of his reasons, the following—that the population of London has increased about a million above the 3,413,400 persons for which the main drainage system was designed, the figures from the census being—1871, 3,254,260; 1881, 3,834,194; 1891, 4,232,118; that, moreover, the late Metropolitan Board of Works took in the drainage of Hornsey, and the Council that of Tottenham and Wood Green, and that under the West Ham Corporation Act of 1893 the Council has further to provide for the drainage of West Ham, the population of which is about a quarter of a million persons. From these figures the Engineer argues that the whole main drainage system is gradually becoming insufficient for its work, and can no longer accommodate the smaller falls of rain, or at all events discharge the same without flooding and without overflow into the Thames. Referring to the original provision for a quarter of an inch of rainfall per 24 hours, we are informed that much ampler provision for rain-water is usually included in modern sewage works. For instance, Bradford provides for 4 in. per 24 hours; Bristol, 1 in. per 24 hours; Hanley, 2 in. to 3 in. per 24 hours; and Leicester, 2 in. per 24 hours. In Liverpool there are only two outfall-sewers which give any trouble, one of which discharges 4 in. and the other 12 in. in 24 hours. In Manchester half-an-inch of rain per 24 hours is provided for, and this is now found to be inadequate; Nottingham 1 in. in one hour; Sheffield new outfall ·41 of an inch per 24 hours; and West Bromwich 1½ in. in 24 hours. To give an idea of the increased quantity of sewage which has now to be provided for, the Engineer informs us that since March, 1889, about twenty-three miles of new brick sewers have been constructed, and ninety-four miles of pipe-sewers of various dimensions, and that during the same period there has been an increase of 30,000 houses in London. Speaking generally, it may be said that the increase is at the rate of 5,000 houses per annum, without taking into account the re-erection of old buildings. It may be mentioned that in the year 1894-5 a provision was made in the Council's Money Bill for the expenditure of 150,000*l.* to meet the cost of the contemplated works, and a similar provision was made in 1895-6 for an outlay of 75,000*l.* Having carefully considered the proposals contained in the joint report, we feel compelled to recommend to the Council that works of an extensive character should be undertaken to improve the main drainage on the north side of the Thames. The first proposal we have to submit is the increase of the sewer accommodation between Old Ford and Barking. At Old Ford, where the high and middle-level sewers form a junction, they have a united discharging capacity of about 39,000 cubic feet per minute, while the double line of sewer from Old Ford to Abbey Mills which receives their contents has a discharging capacity of only 22,000 cubic feet per minute; consequently the discharging capacity of this portion of the outfall sewer is too small by 17,000 cubic feet per minute. Again, at Abbey Mills the discharging capacity of the double sewer from Old Ford to Abbey Mills together with that of the low-level sewer amounts to 36,300 cubic feet per minute, while the discharging capacity of the three outfall sewers, which extend from Abbey Mills to Barking, is only 33,000 cubic feet per minute; consequently there is a deficiency of 3,300 cubic feet per minute, or, taking into account the deficiency which as already pointed out exists at Old Ford, we find that the discharging capacity of the outfall sewer, as compared with the united discharge of the high, middle, and low level sewers, is deficient to the extent of 20,300 cubic feet per minute. The Engineer has drawn our attention to the fact that the existing outfall sewers from Old Ford to Barking have never been inspected internally since they were constructed over thirty years ago. They are constantly so charged both night and day that it is impossible to examine them, and he is of opinion that as there are many important iron aqueducts on this line they should be inspected periodically. It is only by the construction of the proposed new outfall sewers that any change can be effected. Acting under the resolution of the Council of April 14, 1891, the Engineer has prepared and submitted to us 109 working drawings of the proposed additional outfall sewers from Old Ford to Barking, or a distance of about 5¼ miles. The Engineer proposes that there should be two 9 ft. by 9 ft. sewers side by side with those already existing on the northern outfall sewer embankment, but after considerable discussion we have come to the conclusion that the expenditure may with advantage be spread over a longer period by first constructing one only of the suggested sewers, together with the bridges which will be necessary at various places should the Council hereafter decide to make the second sewer. Sir Benjamin Baker and Mr. Binnie in their joint report estimate the cost of the two sewers at 620,000*l.*, but the cost of one sewer only with the other additional work above mentioned will, we are informed, be roughly 450,000*l.* We should, however, point out that, as the quantities have not been taken out, this estimate is only a preliminary one, and may have to be considerably varied after the actual measurements have been made. We recommend—

'(*a*) That one additional outfall sewer 9 ft. in diameter be constructed between Old Ford and Barking, together with the necessary bridges to carry another sewer of similar capacity, and that the Engineer be instructed to have the working-drawings prepared and lithographed and the quantities taken out, with a view to exact estimates of the cost being prepared and to the work being put in hand with as little delay as possible.'

We now come to the second proposal, viz., the construction of a new main intercepting sewer from Paddington to Old Ford. In connexion with this we would point out the rapid growth of the population in the Northern and North-Western suburbs of London, and in that part of Willesden which must in the course of nature drain into the metropolitan system (quite excluding the Brent area), and the Engineer states that some provision must be made by the construction of a new intercepting sewer to prevent this drainage flowing down the Counter's Creek, Brook Green, and Stamford Brook sewers into the districts of Fulham and Hammersmith, which are already in a most unsatisfactory condition. Referring to the thirty-seven storm outlets into the Thames and Lea, and basing our figures on the observations made during the last five years, we may assume that they always overflow when the rainfall amounts to one-tenth of an inch per 24 hours; that this causes about 1,590 discharges into the Thames and Lea annually, and that these discharges range from an average of 291 hours to 785 hours each per annum among the various overflows. In other words, we may say that each storm outlet overflows in times of small rainfall for an average period of ten days every year. Again, the main low-level sewer was surcharged thirty times during 1892, forty-five times during 1893, and 116 times in 1894, these surchargings varying from a few inches to 18 or 19 ft. above the soffit of the arch. The Engineer further points out that besides the above flood-discharges there are times when the low-level sewer can only perform its work by turning the whole of the crude sewage pumped at the western

pumping-station into the Thames at Pimlico. This has had to be done on an average fifty times each year for an average of 386 hours per annum. It should also be noted that the middle-level sewer which extends along the Bayswater-road, Oxford-street, and Hart-street to Old Ford is too small for the work it has to do, and that there are many overflows from it into the low-level sewer. Having regard to the frequency of the surcharging of these sewers, we are of opinion that a new intercepting sewer from Paddington to Old Ford should be constructed so that the storm-waters from the higher levels may be intercepted and conveyed to the outfall instead of being made to pass into the sewers in the low-level areas, thereby causing the flooding of premises in the low-lying districts and the discharge of sewage into the Thames. The low-level sewer will then become more capable of relieving the districts which it was intended to drain. It should be noted that in many of the districts which suffer from the surcharging of the sewers the floodings are in no way due to the height of the tide in the river. For instance, a part of the Parish of St. Marylebone where floodings are complained of is about 2½ miles distant from the river, and the sewer is about 42 ft. above Trinity high-water mark, and the Vestry urges that the construction of a relief sewer should be at once proceeded with. Similarly, in the case of the north-eastern part of Holloway, viz., Crouch Hill, we have before us at present an application from the Vestry of Islington for sanction to the construction of a relief sewer, but as this would have the effect of bringing more sewage into the sewer at Hackney, which is already surcharged in times of heavy rain, the Engineer advises us that unless further provision is made by the construction of a new main intercepting sewer it would be injudicious to sanction the proposal of the Vestry. Under the circumstances here stated we cannot but advise the Council to construct another intercepting sewer in the manner proposed in the joint report. The Engineers suggest that the sewer should commence at Paddington north of the Harrow-road and the canal basin, by a junction with the Ranelagh sewer, which is greatly overtaxed in times of rainfall, and pass along the north side of the Metropolitan Railway by Euston, St. Pancras, and King's Cross Stations to Old Ford. This sewer, if constructed, would, in addition to relieving the higher districts through which it would pass, give immense relief to the existing middle-level sewer, and in its turn the low-level sewer. The cost of this intercepting sewer was estimated in the joint report at 245,000*l.*, but this estimate, as in the previous case, must be considered as approximate only. We recommend—

'(*b*) That an intercepting sewer be constructed from Paddington to Old Ford, and that the Engineer be instructed to prepare the necessary specification, plans, and estimate of the cost of the work.'

Besides the above works, which deal generally with the drainage of London north of the Thames, the Engineer has pointed out to us certain other works of smaller magnitude and of a more local character which are urgently required. These are, first, a deviation of the sewer which passes under the main outfall at Old Ford, so as to prevent its too frequent discharge into the river Lea at that point; secondly, the erection in Lots-road, Chelsea, of a centrifugal pumping-station with gas-engines, to discharge direct into the Thames the water brought down from the higher grounds by the Counter's Creek sewer during periods of excessive rainfall; and, thirdly, the erection of a similar centrifugal or other pumping-station on the bank of the river Thames, near the gas-works at the termination of Imperial-road, Fulham. This will have the effect of preventing the local floodings so frequently complained of, and which it is feared may be somewhat intensified when the new sewer from Hammersmith to Walham Green, now in course of construction, is completed. It is probable that these three works, when proper plans and sections are taken out, will cost not much less than 50,000*l.* We recommend—

'(*c*) That the relief works above mentioned be carried out, and that the Engineer be instructed to prepare the necessary plans and estimates of the cost.'"

Mr. McDougall moved the following amendment: "That the general enlargement of the main drainage system is not necessary, but that local floodings need immediate attention." He said that in 1889 the Thames was a dirty, stinking, and filthy ditch, while to-day it was clean and full of fish. The real question was, How were they to prevent flooding? New sewers would have no effect upon flooding, which came about through houses being built below Trinity high-water mark. Pumping-stations could do something to remedy the evil, and it was on such works that money should be spent, rather than on an enlargement of the system.

Mr. Idris seconded the amendment, observing that stormflow contained practically no sewage. Seeing how black it was, he analysed samples, and found that the discoloration resulted from London soot. Not only was the expenditure on the proposed new sewers totally unnecessary, but it would be actually mischievous, because, if the sewers took a larger quantity of liquid down to Barking than at the present, there would be no way of dealing with it all, and some would have to go unpurified into the river.

Mr. Burns, M.P., contended that the time had come when additional trunk sewers were absolutely necessary, the existing ones being now overtaxed, owing to the growth of population and the increased use of water for sanitary purposes. Mr. McDougall admitted the great improvement that had taken place in the state of the river—an improvement, by-the-bye, largely due to the diversion from the river to the sewers of the poisonous chemicals used in the riverside factories—but Mr. McDougall ought also to know that the margin of efficiency of the new works carried out by the Council five years ago had now been reached.

Mr. Emden advocated the provision of an independent system to carry off the rainfall.

Dr. Gooding stated that when a sewer was empty, or practically empty, it became a reservoir of sewer-gas and spread disease far and wide. Although therefore flooding was an evil, sewers that were not adequately used were a worse evil.

On a show of hands the amendment was carried by 55 votes against 18.

Dr. Longstaff moved the following addition to Mr. McDougall's motion: "And that the Main Drainage Committee be instructed to bring up a report showing in detail the result of the several works carried out by the Council with a view to relieve the main drainage system."

With this addition Mr. McDougall's motion was adopted in a substantive form.

Recommendation (*c*) in the Committee's report was then carried.

The Council having transacted other business adjourned soon after seven o'clock.

THE SMITHFIELD CLUB SHOW.

THE annual Cattle Show which was opened on Monday at the Agricultural Hall, Islington, and which closed yesterday (Friday), is the 98th which has been held by the Smithfield Club. The reason for even a brief notice of such an exhibition in an architectural journal may not at first be apparent, but when we state that the Cattle Show, like all the exhibitions held at the Agricultural Hall, is not exclusively limited to live and dead stock exhibits, or even to implements and articles used on the farm or in connexion with agricultural work, but includes many exhibits of a miscellaneous character, some of which come within our province, the reason for a short notice of some of those exhibits will at once be seen. We may remark, however, that it is not a little surprising that some exhibitors should find it worth their while to show their goods, year after year, at all these class-exhibitions, but we suppose they do, or they would not be represented; and certainly any inoffensive means of bringing before the public interesting and useful exhibits cannot be regretted.

At the time of our visit the exhibition was in a very forward state, and a catalogue was on sale. The whole of the building has been given up to the exhibits, and all available space has been utilised for that purpose. In the centre of the ground-floor most of the animals are to be seen, and under the galleries is placed the heavy machinery, consisting of traction engines, gas and oil engines, machines for all kinds of agricultural purposes, as well as carts and wagons used on estates and farms. The principal exhibitors of traction and other engines were Messrs. Tangyes, Limited, Birmingham; Marshall, Sons, & Co., Limited, of Gainsborough and London; Robey & Co., Limited, Lincoln; R. Hornsby & Sons, Limited, Grantham; Ruston, Proctor, & Co., Limited, Lincoln; John Fowler & Co., Limited, Leeds and London; J. & F. Howard, Bedford; Ransomes, Sims, & Jefferies, Limited, Ipswich; E. S. Hindley, Bourton, Dorset; Wallis & Steevens, Limited, Basingstoke; Chas. Burrell & Sons, Limited, Thetford; Aveling & Porter, Rochester; Crossley Bros., Limited, Manchester; Clayton & Shuttleworth, Lincoln; Robinson & Ander, Limited, Wantage; J. & H. McLaren, Leeds; W. Tasker & Sons, Andover; R. Garrett & Sons, Suffolk; Weyman & Hitchcock, Limited, Cheltenham; Brown & May, Devizes; W. Foster & Co., Limited, Lincoln; Barrows & Co., Limited, Banbury; Holmes & Sons, Limited, Norwich; W. Allchin, Northampton; E. Humphries & Co., Limited, Pershore, and others. On the same floor Messrs. Humphreys, Limited, Knightsbridge, showed a small model of their corrugated iron buildings.

The Cork Pavement Company, St. Helens, E.C., had a stall in what was called the Bazaar, showing specimens of their cork bricks for paving. The bricks are made of granulated cork mixed with bitumen, and are then pressed into the required shape. The bricks are said not to be affected by heat, and, judging from specimens exhibited, which have been in use for over two years at Liverpool-street, they wear well. Provided they are not more costly than wood blocks, there is no reason why the bricks should not be extensively used, for they are non-absorbent, comparatively noiseless, and afford a good foothold to horses or pedestrians.

The Station Indicator Company, of St. Helens-place, showed a model of the indicator which they have fitted on some of the District trains. The method seems a good one, and we hope it will, with some improvements, be adopted on all our railways. The one objection we have to the system is that the station names do not appear alone on the indicators, but are surrounded by the inevitable advertisement.

Messrs. M'Dowall, Stevens, & Company, Limited, Upper Thames-street, had a stall in the arcade entrance showing their stable fittings, kitchen-ranges, stoves, and hot-water apparatus. The stable fittings were shown in the form of a small model stable.

Mr. Sam Deards, of Harlow, was represented as usual by the "Little Samson" hot-water heating apparatus, and a model of his patent glazing without putty, lead, &c.

The Eagle Range and Foundry Company, Limited, Regent-street, showed their ranges and grates, a special feature in one of the ranges being an annealed glass oven-door, with the usual iron door in front.

Among other exhibits we may mention those by Messrs. F. Morton & Co., Limited, Liverpool, (iron roofs, &c.); F. Jones & Co., Kentish Town (silicate cotton or slag wool for insulating purposes); the Pickering Block and Hoist Co., Clerkenwell (light hoisting machinery); Messrs. Hill & Smith, Brierley Hill (iron fencing and roofs); Mr. J. W. Titt, Warminster (galvanised steel wind engine, with riveted angle steel tower); and Mr. C. G. Roberts, Haslemere (patent rain-water separator).

ARCHITECTURAL SOCIETIES.

CARLISLE ARCHITECTURAL, ENGINEERING, AND SURVEYING SOCIETY. — The last meeting of this Society was held on the 5th inst., when Mr. W. Pogson delivered a lecture on "The Design of an Iron Roof," in the Town Hall, Carlisle. The roof dealt with was 60 ft. span straight rafter roof, 15 ft. rise with slated covering. The weight to be carried by the truss was taken at 20 lbs. dead load and 30 lbs. for wind pressure, allowing for a horizontal wind pressure of 50 lbs. per square feet. The rise of tie-rod allowed was 1-30th of span, which, though decreasing the depth, and therefore the strength, was advisable on account of the better appearance the truss assumed, and on account of the shortening of the struts. For a rough estimate of the cost of a roof the practical method was to take the strains out on all the members, and to obtain the weight of iron in the structure by dividing the strain on the tension-members by 4 tons, and on the compression-members by 2½ tons. The lecturer then described the method of taking the strains graphically, after which the details of connexions were described. The lecturer was of opinion that ·75 of diameter of rod it connected was the best size for a connecting-pin. If welded joints formed part of any member twenty per cent. extra strength should be allowed. Wind-bracing was little needed, but if used the rule was to take one-eighth in. for every 10 ft. of span and add one-fourth in. for the diameter of the wind bracing rods. A vote of thanks to the lecturer concluded the proceedings.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.—A paper on the subject of "Modern Decoration" was read on the 9th inst. before the members of the Leeds and Yorkshire Architectural Society, by Mr. Francis D. Bedford. In the course of his remarks the lecturer declared that art had never suffered so much from comparison as at the present time, in consequence of the whole world being so easy of access. The admiration for the past was governed to a great extent by sentiment. Their work should never ignore the age they lived in, but rather interpret the hidden beauties that lie all around. It was no doubt difficult in the present age for an artist to retain the spirit which moved him, and harder still to put it forth. Competition was so keen, and competition was the destruction to art. Far too many artists now-a-days expressed themselves in a past language or a present, because they had

no language of their own. In architecture and its branches they saw as much of what should only have been the model. There was too much of the note-book in most buildings. English art had derived a great and never-to-be-forgotten benefit from those who in the earlier part of the century by their writings told them of the spirit which animated the work of their forefathers. But let them remember there was no such thing as a revival—no such thing as the restoration of a force long since spent. In such attempts they were false both to the past and to the present, and that begot a confusion which was worse confounded. They must be true to the present, and to it wed themselves heart and soul, strengthened with the lessons taught by the past—a past which had reached them slowly, and must be carried on in the same gradual way. It was to nature they must turn, not to museums. Nature would restore all things, and the study of it should be seen in all they designed. What the painter said in colour the decorative artist did in line. The divorce between colour and line when natural was astounding, but when it arose from sheer indolence it was deplorable. The lecture was illustrated by a number of designs for stained glass, wall-papers, furniture, and mural decoration. Mr. Dodgshun, President of the Society, was in the chair.

LIVERPOOL ARCHITECTURAL SOCIETY.—A paper, entitled "Some Thoughts on Old Furniture," was read on the 9th inst. by Mr. Guy Dawber, in the Law Library, Union-court, Castle-street, Liverpool, at the third ordinary meeting of the forty-eighth session of the Liverpool Architectural Society. Mr. Alfred Culshaw, President of the Society, occupied the chair. The leading features in the designing of furniture by Chippendale, Sheraton, and others of bygone and more recent times were reviewed by the lecturer.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.—The monthly meeting of the members of this Society was held on the 10th inst. at the Sheffield School of Art, Mr. C. Hadfield, President, in the chair. An interesting lecture on "Norman Architecture" was delivered by Dr. H. C. Sorby, F.R.S., who is an honorary member of the Society. The lecturer gave a short account of the pre-Norman style in England, and exhibited lantern-slides of some of the most striking remains. He then showed a few illustrating the architecture in Normandy at about the time of the Conquest, and about twenty years older than the earliest Norman buildings in England. These are chiefly characterised by the extremely simple character of their ornaments; but amongst these is one called the tau symbol, which is very interesting, on account of its being derived from the Egyptian symbol for life, used commonly at least 4000 B C. The lecturer then exhibited and described slides prepared from some of the chief buildings in England, illustrating the gradual increase in ornamental details and the introduction of many of new character, until when we arrive at about 1170 a very rapid change occurred, so that in the course of the next twenty years scarcely any trace of the old Norman style remained, and the so-called Early English style became fully established. During the previous one hundred years the amount of progress was most extraordinary. A cordial vote of thanks was accorded to the lecturer, on the motion of Mr. J. Smith, seconded by Mr. J. T. Cook, and supported by Mr. C. J. Innocent and Mr. J. R. Wigfull. A number of nominations for membership were read, upon which ballots will be taken at the next meeting.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The third meeting of the session of this Association was held on the 4th inst., at 32, Sackville-street, Piccadilly, Mr. C. H. Compton, Vice-President, in the chair. The Rev. Cave-Browne, M.A., read a paper entitled "The Isle of Purbeck and its Marble," in which he traced the history of the isle and the origin of the name to Saxon times. It was a Royal warren according to Lambarde. A vivid description of the general aspect of the locality at the present time was given, and the method of quarrying the stone, and more especially the famous marble, so highly esteemed for its beauty during the Middle Ages, was clearly explained. The author drew attention to the discovery, about two years ago, of an unsuspected layer of the marble, similar in every respect to that used so largely in our cathedrals and churches throughout the country in the thirteenth and fourteenth centuries. An interesting description of the local customs of the workers in the quarries, and of their guild, and the ancient charter once possessed by them, dating from the days of the early Edwards, but destroyed in a fire at Corfe Castle, was given. A reputed copy of this charter, however, exists, also articles of agreement dated 1557, under which the "marblers" still monopolise the right of working any quarry. Some specimens of the new marble illustrated the paper. In the discussion which ensued, Dr. Brushfield pointed out that the marble was known to and used by the Romans at Chester; he also described the geological formation. Some Roman tesseræ, found at a depth of 17 ft. below the surface in Bishopsgate-street during some recent excavations, were exhibited. Mr. R. Quick, the Curator of the Horniman Museum, afterwards read a short paper descriptive of an ancient Celtic bell and other bells from various parts of the world which he produced for exhibition. The Celtic bell was discovered in the year 1888 in an old farmhouse at Bosbury, four miles from Ledbury, in Herefordshire. The bell measures 10½ in. in height, without the handle, and is 7 in. long and 2⅓ in. wide; the handle is 3⅛ in. high. Altogether the bell weighs 5 lbs. 6 ozs. It is made of one piece of iron one-sixteenth of an inch thick, folded on itself in the middle, forming in plan a right-angled figure, widening towards the bottom or mouth, the edges turning inwards and overlapping each other. The bell appears to have been dipped into melted bronze. It, no doubt, was used by the Celtic church, and is probably of the sixth century. The Chairman, Mr. Patrick, Hon. Sec., and Mr. Barrett took part in the discussion which ensued.

ENGINEERING SOCIETIES.

THE INSTITUTION OF JUNIOR ENGINEERS.—At the meeting of this Institution, held at the Westminster Palace Hotel on the 6th inst., Mr. H. B. Vorley in the chair, the paper read was on "Urban Roads and Footways, with Notes on Gas, Water, and Electric Mains, &c., in connexion therewith," by Mr. J. Julian, of the Borough Engineer's Office, Cambridge. After a few preliminary remarks as to the original laying out of roads, the author considered their formation as executed principally by local authorities before taking them over. In macadamised roads it was more economical to strengthen the foundation than to use a thick layer of other material between foundation and surface. The materials employed for foundation, and to a somewhat lesser degree for surface, were shown to be governed by local circumstances. Examples of cost in three localities amounted to practically the same per yard super.—4s. 3d.—but the problem in most places was perhaps to produce a road as good as possible for a fixed figure, the various items varying considerably. Details were also given of the total cost per yard super. of pavings on concrete foundations—viz., granite, 11s. 9d.; hard wood, 15s.; and asphalte, 11s. The limiting gradients in ordinary cases were: asphalte, 1 in 60; wood, 1 in 25; macadam, 1 in 20; and granite, 1 in 15: but there were instances of macadam roads as steep as 1 in 6. Channelling, kerbing, and paths were then dealt with, and the common roadwork section of the paper concluded with some figures as to the covering capacity of stone and quantities of granite to the ton. Proceeding then to consider the laying of tramways, it was shown how great was the proportion which the roadwork bore to the other expenses of tramway-track construction. A brief description followed of the overhead and conduit electric and the mechanical cable systems; and the underground works of a road were then reviewed. Various modes of laying electric mains were described, and particulars were given as to cost and of methods for determining the size of conductor and other data. Water and gas-mains were then noticed, and with reference to them the author presented several formulæ for obtaining first approximations. Details of joints were illustrated, while an estimate for laying a pipe-main showed the importance of taking into account the cost of restoring the road surface. Attention was next directed to hydraulic, pneumatic, and steam-power mains, and after some remarks on pipe-laying generally, and reference to last winter's frost experience, the question of sewers was considered. Figures of cost illustrated how widely these varied in practice; a 12-in. pipe sewer 9 ft. deep was, according to one estimate, 3s. 7d. per ft. run, whilst another amounted to 5s. 3d., no new surface material being used in either case. In the discussion which ensued, Messrs. R. W. Newman, E. A. Berry. C. Mittelhausen, S. Boulding, F. Fisher, W. R. Beckton, W. Cooke, and the Chairman took part.

SOCIETY OF ENGINEERS.—The forty-second annual general meeting of the Society of Engineers was held on the 9th inst. at the rooms of the Society, 17, Victoria-street, Westminster, S.W. The chair was occupied by Mr. William George Peirce, President. The following gentlemen were duly elected by ballot, as the Council and Officers for 1896, viz.:—as President, Mr. Samuel Herbert Cox; as Vice-Presidents, Messrs. Chas. C. Carpenter, G. Maxwell Lawford, and W. Worby Beaumont; as Ordinary Members of Council, Messrs. Joseph Bernays, George Burt, John C. Fell, Chas. Gandon, Percy Griffith, Chas. Mason, Henry O'Connor, and Stephen Sellon; as Hon. Sec. and Treasurer, Mr. Perry Fairfax Nursey; as Hon. Auditors, Messrs. Alfred Lass, F.C.A., and Samuel Wood, F.C.A. The proceedings were terminated by a vote of thanks to the President, Council, and Officers for 1895, which was duly acknowledged by the President.—The forty-second annual dinner was given at the Holborn Restaurant on the 11th inst. The President, Mr. William George Peirce, occupied the chair. After the usual toasts of "The Queen," "The Prince and Princess of Wales," and "The Navy, Army, and Auxiliary Forces," the President, in reply to the toast of the evening, viz., "Success to the Society of Engineers," said that the papers read at their ordinary meetings had been well and carefully prepared, and on most interesting subjects, comprising—Parliamentary Procedure as affecting Light Railways and Tramways, Portland Cement, Street Subways, Safety Appliances for Elevators, Relative Value of Percolation Gauges, Statistics on the Strength of Railway Axles, and Ventilation and Warming, and all the papers evoked good discussions. The President then dwelt upon the value of belonging to scientific societies, and said that much valuable experience could be gained by belonging to those where opportunities were freely given to the members—both old and young—to take part in the discussions on the papers read at the meetings. The summer vacation visits to engineering works had been of great interest, comprising the City and Waterloo Railway Works, the City of London Brewery, the Outer Harbour Extension Works and the Electric Lighting Works at Dover, and the School of Gunnery, Shoeburyness. All of these had been well attended, and these visits had proved most beneficial to all who took advantage of the invitation to join in them. Lastly, the President advised all the younger members of the profession to take advantage of the opportunities offered by the Society both at ordinary meetings and at the vacation visits to engineering works, for although the modern technical educational establishments did a great deal there was much to be learnt in actual workshop experience and at visits to works in progress. Other toasts followed.

TRADE CATALOGUES.

THE Berlin Photographic Company send us a catalogue of their extensive list of photographs or photogravures taken from paintings by eminent artists, with some sheets of illustrations on a small scale. They also publish, at a higher rate than black and white photogravures, facsimile gravures, printed from the same copper-plates as the black and white, but with the colours of the original painting rubbed on to the plates, so that an approximate facsimile is produced.——Messrs. George Farmiloe & Sons send us a large catalogue of sanitary work, including their improved slop hopper in fireclay, for hospitals and hotels; various stoneware traps, including Weaver's ventilating sewer-air trap and Sykes's patent sewer-gas interceptors; channel bends and junctions; the "Eclipse" drain-testing apparatus, and drain-cleaning appliances; soil-pipes, ventilators, boiler safety-valves (mostly, we are glad to see, dead-weight valves—springs are not to be trusted); cisterns, sanitary dustbins &c.; electric-bell fittings; portable forges and tools, lead-piping, &c. &c. Some additional interest is given to the catalogue by illustrations and accounts, under the heading "Trade Curiosities," of ancient work, "manufacture of lead in 1742," for example. There is also an extensive catalogue of glass and glass-leading.——Messrs. Ridley & Sons send us a large catalogue of priced and illustrated sections of wood mouldings.——Messrs. J. Duckett & Son send us a catalogue of cottage water closets and latrines to be flushed with slop-water, and automatic tippers for flushing sewers and drains; a useful catalogue, illustrated with complete sections and other drawings.

THE STUDENTS' COLUMN.—Owing to pressure of other matter, we are compelled to hold over our usual "Student's Column" article until next week when two chapters will be given.

Correspondence.

To the Editor of THE BUILDER.

FIREPROOFING TIMBER.

SIR,—The by-laws of Town and District Councils forbid erections in wood, even on open sites, when such buildings would be so far removed from others as to preclude any possibility of danger. Were it possible to render the wood to some extent uninflammable, this restriction, which is often a needlessly hampering one, could be dispensed with.

I should be very much obliged to any of your readers who could tell me whether practical use, on anything like a large scale, has been made of any of the preparations brought out in recent years for the protection of wood from fire.

Experiments, I know, have been made on the part of the patentees with packing-cases or small huts, but that is hardly enough for my purpose. BALTIC.

OBITUARY.

MR. C. T. LUCAS.—The death has just occurred of Mr. C. T. Lucas, of Warnham Court, Horsham. The deceased was the senior partner of the firms of Lucas Brothers, Lucas & Aird, and John Aird & Sons. He was born in London in 1820, and some fifty-three years ago began business at Norwich as a builder and contractor. Some time afterwards he was joined by his brother—now Sir Thomas Lucas—and founded the firm of Lucas Brothers at Lowestoft. Their business increased to such an extent that the firm eventually removed to London, and grew into the three concerns already mentioned. Among the many important works carried out by them were the Royal Albert Hall, the Charterhouse Schools at Godalming, the South Kensington Exhibition of 1871, and the Royal Albert Docks. About twelve years ago the deceased restored the parish church of Warnham at a cost of several thousand pounds, to which fact a brass plate on one of its walls bears evidence.

GENERAL BUILDING NEWS.

FREE LIBRARY, EVERTON. — The Liverpool Corporation are building a new Free Library at Everton, in the suburbs, from the designs of the City Architect, Mr. Thos. Shelmerdine. Messrs. Paterson & Son are the builders, and the floors are fireproof on the "Mark Fawcett" system.

NEW BRIDGE OVER THE WYE, AT SELLACK.—The scheme for the erection of a bridge across the River Wye at this place has been on foot for upwards of two years. The original idea was to erect an iron girder bridge of three spans, but this would have necessitated the erecting of two stone piers in the river bed; whereupon the Rev. Augustin Ley consulted Mr. Ernest Davies, architect, of Hereford. Acting upon his advice the first scheme was abandoned in favour of a suspension bridge of one span. The stone used in the abutments of the bridge has all been quarried in the locality, and is a hard red sandstone. The foundations are about 15 ft. deep, and sunk below the bed of the river on a good firm bottom on the rock, and are composed of concrete and gravel out of the river. The masonry abutments are surmounted with Forest of Dean coping. Two smaller abutments carry the approaches on either side, and the roadway is made up with gravelled surface. The two anchor blocks for holding down the bridge are of cement concrete, 13 ft. square, in which the links and rails are thoroughly embedded. The bridge has a clear span of 190 ft. (the water-line being 150 ft.), and a total length of 228 ft. and 6 ft. wide, being intended for foot traffic or for cattle only. On either side of the river are two cast-iron ornamental columns, surmounted with finials for carrying the ropes which pass over the columns, and are made of best patent improved galvanised steel wire, 5 in. in circumference. The two suspending ropes have each a breaking strain of 32 tons, and the platform ropes are 3½ in. round, and have a breaking strain each of 40 tons. These are secured to the anchor blocks, and strained up with nuts and bolts. Every 2 ft. apart there are placed vertical rods connecting the upper and lower ropes. They are of solid steel, galvanised, with a breaking strain each of 1¼ tons, and run the two sides of the bridge. The flooring and skirting are of oak, and are bolted down to the ropes. The sides of the bridge are protected by lattice wire panelling, fixed to the vertical rods and skirting. The approaches on each side are carried by oak beams, with iron railings at the sides and gates at the entrance to the bridge. The screws, nuts, and tightening apparatus have all been cased in so as to be protected from the weather. The walking-way of the bridge is asphalted, and all the timbers have been well tarred throughout to prevent their decay. The bridge has a slight camber—about 3 ft.—and the underside at the centre is about 25 ft. above the summer level, and about 6 ft. above the great flood in the year 1852. The steel and ironwork of the bridge was supplied by Mr. Louis Harper, of Aberdeen. The masonry, concrete-work, and flooring has been carried out by Mr. John Preece, contractor, of Marden. The erecting was entrusted to Messrs. Naylor & Co., engineers, Hereford. The whole of the work has been carried out under the superintendence of the architect, Mr. Ernest G. Davies.

THE PROPOSED NEW POLICE BUILDINGS, COVENTRY.—At the meeting of the Coventry City Council on September 24 it was resolved, "That the plans for municipal buildings, to which the first premium was awarded in the recent competition, be referred to the consideration of the Estates and Finance and Watch Committees jointly, with instructions to report as to the steps to be taken to provide police buildings, and generally." Since that time the joint committees, under pressure from the Home Office, have been engaged upon the question of bringing the scheme into practical shape. As at first arranged, it was found that to carry on the police portion of the scheme would involve the erection of about three-fourths of the whole proposed new municipal buildings. With a view to obtaining the necessary police accommodation at less expense, a sub-committee was delegated to confer with Mr. H. Quick, the architect, and as a result a re-arrangement of the plans has been made by which police accommodation may be provided at a cost of about 8,000*l*, upon the site of the present police-station. No difficulty is anticipated in accommodating the police temporarily, during the progress of the work.—*Coventry Herald.*

RESTORATION OF PARISH CHURCH, THELNETHAM, SUFFOLK.—On the 1st inst. the old parish church of St. Nicholas, Thelnetham, was reopened after restoration. A Spanish chestnut roof has been placed on the chancel, covered by stone slate. The walls of the chancel have been restuccoed. Fresh stone tracery has been placed in the window by the pulpit, the north stone doorway replaced in its former position, and the flooring under the benches in the nave and Lady Chapel, which was decayed, have been replaced by fresh floors. Altar frames have been constructed for the ancient stone altar slabs, the frames being made of red pollard oak from Coney Weston Park. The two east windows of the chancel and Lady Chapel have been restored also, and the large window in the Lady Chapel reglazed. Mr. W. Fawcett, of Cambridge, was the architect; Mr. R. Hogg, builder, Coney Weston; Mr. R. F. Perfitt, stonemason, Diss; Mr. T. Lebbon, bricklayer, Hopton; Mr. J. Walton, glazier, Hopton; and Mr. W. Close, the Quarries, Colley Weston, Northants.

UNITED PRESBYTERIAN CHURCH, LEITH.—What was formerly Junction-street Hall, Leith, has just been opened as a church for the Ebenezer United Presbyterian Congregation. A new platform has been constructed, with the pulpit in the centre, at the south end of the church, with accommodation in front for the choir. Galleries have been carried along both sides, and the entire building now has sitting accommodation for about 800 persons, the seats being made of pitch-pine. The building has been repainted and redecorated. A hall for mission purposes has been constructed at the back for about 200 persons, the two retiring-rooms behind the old platform having been made into one for the purpose. The main entrance is, as before, from Junction-street, with a side access from Bowling Green-street. The architect was Mr. W. N. Thomson, Leith.

BAPTIST CHURCH, MOTHERWELL, LANARKSHIRE.—A new Baptist church was opened at Motherwell on the 8th inst. The new church is situated at the junction of Lochend-street with Windmillhill-street, and has been built from the designs of Mr. Alexander Cullen, Motherwell. The building is of red sandstone from Corncople Quarry, Dumfriesshire, and the style is a simple treatment of Romanesque. Accommodation is provided for 370 sittings, with baptistry, and the necessary retiring-rooms and vestry.

NEW ASSEMBLY ROOMS, BIRMINGHAM.—New Assembly Rooms are now being erected in Hurst-street, Birmingham. Considerable progress has been made with the work since it was commenced from the designs of Messrs. Essex, Nichol, and Goodman. On the ground floor will be a supper room, 75 ft. by 40 ft. At either end will be cloak rooms for ladies and gentlemen, and a drawing room, measuring 40 ft. by 23 ft. Above the supper room, on the first floor, will be the ball room of 71 ft. by 41 ft., and 28 ft. high, with attendant drawing and cloak rooms. The supper and ball rooms will be the two principal apartments, but there will be many others of minor size. The whole building will be lighted by electric light. The main entrance, which opens into a wide hall, will be in Hurst Street, but a second entrance in Inge Street will also lead to the supper room. The ball room will be approached by an extensive staircase. The feature of the facade is a tower, which has been erected over the principal doorway.

WELSH CHURCH, ABERAVON.—The Bishop of Llandaff has just dedicated the new St. Teilo's Church, Aberavon. Plans were prepared by Messrs. Thomas & James, architects, Port Talbot and Bridgend, and the contract was let to Messrs. J. & S. Rees, of Aberavon. The new church consists of nave, chancel, and vestry. The walls are built of native stone, with Bath-stone dressings. The nave is lighted by lancet-headed lights, and in the west end is a five-light window with traceried heads, the whole being filled with tinted cathedral glass. Accommodation is provided for 200.

EXTENSION OF TRAINING COLLEGE, SWANSEA.—The extension of the Swansea Training College for female pupil teachers, which has taken the form of a new common room, has just been opened. The room is 45 ft. long by 25 ft. wide. Mr. Goodrich was the builder, Mr. Portsmouth the architect.

PREMISES, NEWCASTLE-ON-TYNE. — New premises for Messrs T. & G. Allan have been erected in Blackett-street, Newcastle. The building has been built by Mr. Thos. Weathitt, from plans by Mr. J. T. Cackett, architect, who was also the architect of the premises adjoining, of Goldsmiths' Hall, and some of the other new buildings in the same street.

FOREIGN AND COLONIAL.

FRANCE.—M. Dutert, architect of the Natural History Museum, has just completed the building and decorating of the new Anthropological and Palæontological Halls in the Jardin des Plantes. These galleries are decorated with busts of celebrated naturalists, and allegorical bas-reliefs. —— Nearly 400 artists belonging to the Champs Elysées Salon have signed a protestation against the destruction of the Palais de l'Industrie. As M. Picard, Commissary-General of the Exhibition, is engaged in making plans for the placing of the different buildings, which will be much better arranged, and on a much larger scale, it is difficult to understand why this protestation should be got up, and one can only imagine it is the work of certain Members of Parliament, who are hostile to the Exhibition.——The new Minister of Fine Arts has decided that at the Ecole des Beaux-Arts there shall be special courses for women, and he has authorised the students of the Académie de France, at Rome, to travel in Algeria, or in the provinces, during the time of their Roman residence.——M. Hippolyte Buteaux is executing an allegorical decoration for the ceiling of the staircase of the *petit Luxembourg*, the residence of the Président du Sénat.——The Pont Mirabeau has just been opened for traffic. The decorations, which have been done by the sculptor Injalbert, consist of four large allegorical subjects mounted on the fabric, with the arms of the city of Paris.—— There is a notice of an interesting exhibition of the works of the painter Henri Martin, in the Gallerie Mancini, Rue Taitbout.——A committee has just been formed to erect a monument to the memory of Pasteur.——M. Alfred Agach, artist, and general director of the Museums at Lille, has just given in his resignation, on account of the want of interest manifested by the municipality in preserving the works of art. —— It is announced that the old Abbey of Citeaux is to be completely restored and opened again as an Abbey.——In the spring the statue of General Le Flô is to be inaugurated at Lesneven. It has been executed by M. Denys Puech. M. Baran has been commissioned to execute a statue of Dr. Alphonse Guérin for Ploërmel, and an equestrian statue of Du Guesclin is to be erected at Dinan.—M. Jules Grosjean, the sculptor, has furnished the model of the monument which the "Société du Souvenir Français" proposes to raise in the public square of Hericourt in memory of the Franco-German war. The monument will be five mètres in height. A female figure symbolising the town of Hericourt holds in her hand the flag of France, and looks towards Alsace. On the pedestal is a bas-relief representing a dying soldier.——A society has been formed to prosecute the study of the questions connected with the formation of a navigable canal from Nantes to Orléans.——The municipality of Toulon have opened a competition for the erection of a new Savings Bank.——The death is announced of the painter and engraver Léon Girardet, at the age of thirty-nine. He was a member of the celebrated artistic family which has produced also Karl and Eugène Girardet.

AUSTRIA.—The plans for the improvement of the inner City of Vienna are now on view at the Town Hall, and show that the authorities contemplate extensive alterations.——There have been a number of petitions lately in reference to the better paving of Vienna, especially on such important thoroughfares as the Pratersgasse, and we quite agree with the petitioners that the paving complained of, generally rough granite work of the worst sort, is disgraceful. ——A new synagogue is to be erected at Vienna, and the foundation-stone has been laid with much ceremony, as the building is to be a memorial in connexion with the celebration of the fiftieth anniversary of the Emperor's reign. There will be seating accommodation for eight hundred. Herr Gärtner is the architect.——The telephone service at Vienna, which was commenced in 1881 with 150 subscribers, now has 9,000 call points. About seven-eighths of the lines are, however, unfortunately overhead lines. ——The Arts and Crafts Society at Vienna will probably soon have its own "house." Plans are being prepared by Herr Kirstein.

STAINED GLASS AND DECORATION.

RENOVATION OF ST. MARK'S CHURCH, COVENTRY.—On the 5th inst. St. Mark's Church, Coventry, was reopened after renovation, &c. The work of renovation was entrusted to Mr. Johnson, and included the colouring of the walls, and the painting of a dado, with a stencilled border, the design of Mr. H. Quick. The woodwork has also been painted and revarnished. A new heating apparatus has been provided, and at the east end

within the altar rails the walls have been hung with printed canvas, supplied by Watts, of London, the designs being the work of Messrs. Bodley & Garner, executed in colours of green, blue, and gold.

DECORATION OF HELENSBURGH UNITED PRESBYTERIAN CHURCH, DUMBARTON.—This church, after having been closed for a few weeks to allow of its being repainted and redecorated, has just been re-opened. The painter work has been executed by Messrs. H. L. Anderson & Co. (with Mr. Charles Finlay as forman decorator), the new windows by Messrs. Wm. Meikle & Co., the gas fittings by Messrs. Milne, all of Glasgow; the plumber work by Mr. John Horn, Helensburgh; and the whole work has been carried out according to the detailed drawings, and under the personal superintendence, of Mr. Alexander M. Paterson, architect, Glasgow.

FONT CANOPY, BARNET CHURCH, HERTS.—The dedication has just taken place of the new carved oak seats, tower-screen, and font canopy at Barnet Church. The font canopy was designed by Mr. J. C. Traylen, architect, of Stamford, and executed by Messrs. Harry Hems & Sons, of Exeter. It is of spiral outline, and is 10 ft. 5 in. high. All round the base of the cover there is a carved cresting, and just above, at each of the eight angles of the octagon, are canopied and crocketed niches, carved out of oak. Each niche is occupied by a statuette sculptured in the round. There are 825 carved crockets and finials. The canopy is attached by a chain, with ornamental pulleys and weights of wrought iron, to the roof of the nave at an altitude of about 44 ft. from the floor. The tower-screen measures 12 ft. wide by 10 ft. high.

WINDOW, ASHBOURN CHURCH, DERBYSHIRE.—A new stained-glass east window at Ashbourn Church was recently dedicated. The work has been executed by Mr. C. E. Kempe.

MISCELLANEOUS.

"TRINITY CORPORATION OF DEPTFORD-LE-STROND."—By a mistake of the printer, Mr. Redman's letter last week on this subject was erroneously headed "Deptford-le-Stroud."

THE INSTITUTION OF CIVIL ENGINEERS.—There are thirty members and Associates of the Institution of Civil Engineers who have been on the books for upwards of fifty years. These are, in order of election, Sir Charles Hutton Gregory, K.C.M.G., Past-President; Mr. Geo. F. White; Mr. H. D. Martin; Major-General G. B. Tremenheere, late R.E.; Mr. John Baldry Redman; Mr. S. B. Worthington; Mr. Edward Cottam; Mr. John Clutton; Mr. T. Dyne Steel; Dr. William Pole, Hon. Secretary; Mr. J. C. Sherrard; Mr. Peter Bruff; Colonel T. H. Sale, late R.E.; Mr. William Evill; Mr. W. L. Baker; Mr. John Boustead; Mr. William Lindley; Mr. Edward Dobson; Mr. Henry Warriner; Mr. George Henry Birkbeck; Mr. Alfred Upward; Sir John Fowler, Bart., K.C.M.G., Past-President; Mr. James Abernethy, Past-President; Mr. J. H. Pepper; the Baron Du Bois de Ferrières; Mr. Henry Hensman; Mr. W. H. Barlow, Past-President; Mr. William Shears; Mr. W. P. Marshall, and Mr. H. Wollaston Blake. Of those elected during the years 1846-50, both inclusive, there still remain Mr. Edward Woods, Past-President; Mr. J. B. Huntington; Mr. John Addison; Mr. F. C. Christy; Mr. Robert Jacomb-Hood; Mr. P. J. Margary; Mr. Charles Neate; Mr. W. G. Brounger, Field-Marshal Sir Lintorn Simmons, R.E., G.C.B.; Mr. Alfred Williams; Sir Robert Rawlinson, K.C.B., Past-President; Mr. G. W. Harris; Mr. Henry Currey; Mr. J. S. Valentine; Mr. Henry Maudslay; Mr. George Arthur Biddell; Mr. Henry Robinson; Lord Armstrong, C.B., Past-President; Mr. William Radford; Mr. William Piper; Mr. William Wilson; Mr. William Sowerby; Sir Douglas Galton, K.C.B.; Sir Geo. Barclay Bruce, Past-President; Mr. Charles Christopher Carleton Baynes; and Mr. George James Munday.

RATING OF MACHINERY.—At the Middlesex adjourned Quarter Sessions held on Saturday last week before Mr. R. D. M. Littler, Q.C., Chairman, and a Bench of Magistrates, the appeal of Mr. Otto Monsted against the assessment of 1,960*l.* net rateable value of his new margarine factory at Southall was heard. Mr. Edward Boyle specially retained, and Mr. Humphreys instructed by Messrs. Dollman & Pritchard, solicitors to the Machinery Users' Association, were for the appellants, and Mr. Jelf, Q.C., and Mr. Ryde, instructed by Mr. Hudson, represented the overseers. The factory is new, and cost, as stated in Mr. Boyle's opening speech, nearly 80,000*l.* The capacity is largely in excess of the output, and owing to the unexpected insufficiency of the water supply the full capacity is not likely to be used. The Court held that cost had nothing to do with assessment for rating purposes, and would only admit evidence as to the rent which a tenant would give for the premises taking into consideration the state of the trade. Mr. Humphreys-Davies, the first witness called for the appellants, estimated the rent at 1,000*l.* per annum, and was supported by Mr. Elwell, F.S.I., and Mr. Walter Barnett. Mr. Eve, who had made the valuation in the first instance for the overseers, Mr. C. F. Jones and Mr. Bradshaw Brown gave evidence in support of the assessment of 1,960*l.* The Court, after a long hearing, allowed the appeal with costs, fixing the rateable value at 1,020*l.*

ENGLISH ENGINES IN CHINA.—The first of a set of three new pumps recently forwarded by Messrs. Hathorn, Davey, & Co., Leeds, to the Chinese Engineering and Mining Company's Works at Tongshan, was started on Monday morning, December 3, at their No. 2 shaft. A select company was invited to witness the turning on the steam. Amongst those present were the company's secretary, Mr. Tong Kai-sun, Messrs. Lo Tao-sing, Resident Administrator, and W. Wan, Mining Engineer. All being ready the signal to start was given, and the manufacturer's representative and erector, Mr. R. Buckle, turned on the steam. At the first stroke of the engine a large quantity of Chinese crackers and fireworks were ignited in honour of the occasion. The new pump is one of the latest type of the makers' differential pumping engines, with a double-acting ram of 11 in. diameter, and 4 ft. stroke; it throws 475 gallons of water per minute from the bottom of the No. 2 shaft to the surface, a distance of 300 ft. The engines referred to consist of three compound surface-condensing differential underground pumping engines, having cylinders 18 in. by 30 in. in diameter by 4 ft. stroke—each capable of raising 475 gallons per minute, 300 ft. vertically.

THE LONDON WATER-SUPPLY.—A conference of Metropolitan Local Authorities was held on the 10th inst. at the Town Hall, Kensington, "to consider the desirability of legislation being promoted to secure for the ratepayers adequate control and supervision over the water-supply of the metropolis." Delegates representing sixteen local authorities were present. General C. E. Webber, R.E. (Kensington), who presided, said the question of the water-supply of the metropolis was one which presented difficulties of a most intricate character. There was in London a population of 5,400,000, of which number the River Thames supplied 54½ per cent., the Lea 27½, and wells, &c., 18. The eight water companies of the metropolis supplied on an average 28·29 gallons per head per day for domestic purposes, and that used for public purposes was a little more than half that amount. With regard to the quality of the water, which had of late been much canvassed, the report of Professor Franklin, the official examiner, was most encouraging. It was necessary, whilst taking into consideration this subject, to consider where the new sources of supply were coming from. Calculating up to the year 1930, supposing there were an extension of London boundaries, there would be a population of something like 11,000,000. It was a fact, however, that the sources of the Thames and Lea had never been fully investigated and their resources never fully taxed. For the purchase of the companies between 40,000,000*l.* and 50,000,000*l.* would have to be raised. The eight London water companies had spent something like 15,500,000*l.* The shareholders should not be deprived of their just rights and revenues, and consequently the question of compensation would arise. They must not lose sight of the fact that out of the 15,500,000*l.* a very large proportion of it was underground in the shape of mains, &c., and the value of which was very deceiving. He was strongly opposed to the London County Council having control over the Water Companies, because they had too much to do at the present moment.—Mr. George Nelson Watts (Kensington) moved:—"That, in the opinion of this conference of Metropolitan local authorities, it is desirable that any legislation dealing with the water supply of the Metropolis should be in the direction of the passing of an Act which, without unduly hampering the operations of the several Companies, shall provide for the supervision and control of the existing undertakings rather than for their purchase."—Mr. T. Huggett (Kensington) seconded the resolution.—Mr. J. Lidiard (Wandsworth) moved an amendment to the effect that a water trust be constituted, to consist of persons to be elected by the London County Council, the Corporation of London, the Thames Conservancy, and all sanitary authorities, with all powers for the necessary purchase, control, and management of the water supply. Mr. David Laing (St. Martin-in-the-Fields) seconded the amendment, which was carried by a large majority.—Mr. W. R. Sayer (Fulham) moved a further amendment to the effect that the London County Council should have a majority of elected members on whatever Board was constituted.—Mr. Legg (Whitechapel) seconded the amendment, which was lost.—On the motion of Mr. J. Lidiard (Wandsworth), seconded by Mr. R. Walker (St. Martin's), a resolution calling upon the Government to promote legislation for the carrying out of the proposal indicated in the foregoing resolution of the creation of the necessary authority was carried unanimously.—It was also decided to send copies of the resolutions to the Prime Minister, the President of the Local Government Board, and the County Council.

FINE ARTS AND INDUSTRIAL EXHIBITION AT DOUGLAS.—The Bishop of Sodor and Man opened on the 9th inst. the Isle of Man Fine Arts and Industrial Guild at Douglas. The Guild originated in a desire to encourage and foster Manx home industries. In his opening address the Bishop advised the cultivation of art, first for its own intrinsic value, and secondly from the more utilitarian point of view of enabling English and Manx people to compete with other countries in the markets of the world. In the exhibition there is a good show of oil and water colours. There is also a loan collection of Manx antiquities and a model of an old Manx cottage.

DUNFERMLINE FINE ART EXHIBITION.—The fifth triennial exhibition of the Dunfermline Fine Art Association was formally opened in the Carnegie Baths, Dunfermline, on the 7th inst., Professor Baldwin Brown, in opening the exhibition, said that such an exhibition as this afforded a gratifying proof of the extent to which a love of what was beautiful in nature and in art was spread among the people of this country. Dunfermline was herself a mother of artists, and was the seat of a famous branch of that great textile industry the productions of which might be made by tasteful design into admirable works of art. He thought they could hardly over-estimate the value of this element of art and beauty brought home to their lives in the present day by various agencies, of which an exhibition of this kind was one of the most effective. They must not, however, overrate the advantages of an exhibition of art. Art exhibitions were sometimes spoken of in somewhat extravagant terms, as if they represented the conversion of the community generally to all that was beautiful and good. He did not think that exhibitions of art were an unmixed blessing. From the purely artistic standpoint they left much to be desired, because it was impossible to take the right attitude towards works of art when one saw them crowded together, as they must necessarily be, upon the walls. One of the advantages of an exhibition of this kind was that it encouraged what was called by a very useful, if not a very elegant, term—local talent. With regard to the overcrowding of the artistic profession, he thought that every profession at the present day was overcrowded. Proceeding to speak of fields open to the artist independent of the old, fields of picture-painting and the making of statues the Professor referred to design and decoration, to black-and-white illustrations for magazines and journals, and to the advertisement poster. On the latter point he observed that advertisements in their right place were all very well, but they were not always in the right place, and it was very possible to have them in a place where they were sometimes abominations. He might say in passing that the slopes of the Calton Hill were not a place where advertisements should be exposed. The evil was becoming a very crying one in some parts of the country, and he hoped that Scotland would preserve itself from this iniquitous form of advertisement. He hoped at any rate that the railways running through the beautiful and famous scenery of Scotland would not be desecrated by having such advertisements meeting the eye on every side; and he hoped further that no artist who devoted any of his time to artistic advertisements would ever do one that was to be put in a position where no advertisement ought to be. In conclusion, he said that it was no use either painting or purchasing beautiful pictures of nature if they all the while allowed the fair face of nature herself to be marred by the unlovely works of man. He hoped he was not in this department a fanatic. He would not say that one should make a sort of general crusade against all utilitarian works, and object to any railway or other necessary structure that interfered with some beauty of nature. In the world in which we lived, in the circumstances of our time, cases would arise in which it would be necessary to yield to considerations affecting the material well-being of the community, or a part of the community, but he did think they should try to keep those cases as few as possible, and that they should scrutinise in the most vigilant manner any proposal that was made which would involve the destruction of some beautiful scene or effect of nature—whether the proposal was to capture a beautiful garden in a city for a railway station, or to draw off the water from a world-famous waterfall in order to supply power to aluminium works.

REREDOS, UPTON-ON-SEVERN, WORCESTERSHIRE.—The new reredos at the Parish Church, Upton-on-Severn, has just been dedicated. The background of the structure is of Painswick stone, and the sculpture is of white alabaster. The figures in the central panel represent Our Lord and the two disciples at Emmaus, and in the panels on either side are figures of St. Peter and St. Paul, the patron saints of the church. The reredos was designed by Sir A. W. Blomfield, and the work executed by Mr. T. Collins, of Tewkesbury, the sculpture being from the studio of Mr. G. H. Martyn, of Cheltenham.

THE EDINBURGH SCHOOL OF APPLIED ART.—The drawings executed by the students of the School of Applied Art during the past season are this year hung in the galleries of the Royal Scottish Academy. On the 6th inst. the galleries were visited by the Lord Provost, Magistrates, and Council, who have, out of the Equivalent Grant from the Government, voted 1,000*l.* a year to its support. The members of the Corporation were received by Dr. Rowand Anderson, director of the classes at the School, and several of the Trustees of the Board, and were shown round the galleries and had the work explained to them. The School, it may be briefly recalled, was started three years ago with the view of giving a wider education in art than was then obtainable to young men and apprentices engaged in trades and professions with which art is in a greater or less degree associated. An annual sum subscribed by employers of such labour was guaranteed for five years. The Board of Manufactures showed its sympathy in the movement by assis-

ing in the management and by giving the necessary accommodation for carrying on the teaching, while the Town Council, as already stated, generously contributed to its funds. One thing which greatly hampers the directors in the development of the School is the tentative arrangements which can only be made while it remains on its present experimental footing; but the School has met such a felt want in the city, is carried on upon so practical principles, and has been so taken advantage of by the class of students for whom it was intended, that it is hoped something will soon be done to establish it on a permanent basis. One thing very much wanted at present in connexion with it is a workshop, where the practical details of certain art handicrafts could be better taught and illustrated; but unless assisted by some wealthy citizen interested in the subject, the directors do not see very well how otherwise this requisite to their further success can be obtaiaed. The drawings on view are largely of an architectural character. Architecture is recognised as being the basis of all good design; and affording a common standpoint for craftsmen who have afterwards, at the call of the architect, to furnish and decorate in a consistent and unified way the houses of the citizens. The drawings show that the characteristics of the different orders of architecture have been well taught; the figure has also been studied to some purpose, as being so necessary in all first-class design; and last season great pains were taken to develop the study of colour for decorative purposes. A few examples of plaster ornament are shown as the fruits of the modelling class. Last year there were in all sixty students in the different classes of the School, that being about the limit of the present accommodation. In connexion with the classes there are Saturday afternoon excursions to notable mansions and buildings, where the students sketch, internally or externally, whatever appeals to them as the most interesting features of the places visited. The results of these excursions are likewise seen on the walls. Last year two scholarships of 50*l.* each were founded. These scholarships have been allocated, and the possessors of them have made a beginning at Holyrood in the study and reproduction of interesting features in old Scottish furniture to be found in the ancient Royal Palace.—*Scotsman.*

LEGAL.

ALLEGED OBSTRUCTION OF ANCIENT LIGHTS AT LEEDS:

ACTION IN THE CHANCERY DIVISION.

THE case of Powell *v.* Wedderburn occupied the attention of Mr. Justice Romer in the Chancery Division on Monday, Tuesday, and Wednesday, the 2nd, 3rd, and 4th inst., it being an action brought by the plaintiff to restrain the continuance of two hoardings which obstructed the plaintiff's ancient lights.

Mr. Oswald, Q.C., M.P., and Mr. Bardswell appeared for the plaintiff; and Mr. Eve, Q.C., and Mr. Austen Cartmell for the defendants.

The plaintiff in this case was Mr. William Powell, who carries on business as Goodall, Backhouse, & Co., wholesale chemist and druggist, at Leeds, and the defendants were Lancelot Wedderburn and Elizabeth Kenyon Wedderburn, his wife, the owners of adjoining property in Kenyon's Court, Briggate. It appeared from Mr. Oswald's statement that the plaintiff's premises occupied the site of an old temperance hotel, which was known as Myers' Temperance Hotel, and to which certain alterations were made in 1876. The male defendant owned the premises on the south side of the court and his wife those on the north side, but she had granted to her husband a life interest in her property. Plaintiff employed some sixty or seventy clerks, who worked in a large room, the light to which had been greatly obstructed by the erection of the hoardings put up by the defendants. The plaintiff bought the hotel property in 1884, and at once set to work to have plans got out for the erection of new warehouses. An agreement was then entered into, in which the defendant, on behalf of himself and his wife, agreed for certain considerations not to interfere with the plaintiff's building up to a certain frontage. The female defendant now challenged the authority of her husband to sign that agreement on her behalf.

Mr. Justice Romer said the agreement in his view did not confer any rights to lights upon the plaintiff. What they sold was their right to object to plaintiff's building and nothing else.

Mr. Oswald said it was a remarkable thing that the defendants stood by for nine years and did not make any complaint until they got into the hands of a Mr. Healds, and then the hoarding was put up. He submitted there was no use in giving the plaintiff the right to build if every window he put out could be blocked by the defendants.

Mr. Justice Romer said the point was really not arguable. If the defendants allowed the plaintiff to go on they might find themselves at the end of twenty years restrained from developing their property.

After hearing evidence and the arguments of counsel,

His Lordship, in giving judgment, said that, if he might say so, he was sorry for the plaintiff in the case, because he could not help seeing that he had been misled by a mistaken view of the meaning and effect of the agreement come to between him and the defendants, and in his judgment the action failed. It also failed on the ground which had been argued before him on the question of ancient lights. The plaintiff's new building was entirely different from the old one, both in size, position, and character, including the position and character of its lights, and had been built apparently with a total absence of any design to make the new windows represent or stand in the place of the old lights. Owing to these circumstances, he found himself unable to identify any of the new windows, or any part of the new windows, as preserving or representing or taking the place of the old windows, or any particular part of the old windows. Taking the two hoardings complained of, he was unable to say with certainty that any particular part of them really stopped any rays of light coming over the defendants' building, which would pass through the present windows of the plaintiff, and also through the ancient lights. For those reasons the action failed, but he thought it right to add—although the point was in defendants' favour—that there was in this case an abandonment by the plaintiff of the ancient lights. It appeared to him (his Lordship) that that abandonment was to be gathered in this case from the fact that the new building was entirely different from the old one, including the character and position of the lights, and also from the fact that, although the plaintiff had originally had plans prepared with a view to preserving the old lights, he abandoned those and took other plans in accordance with which the present building was built, and so showed, as he (his Lordship) had already stated, a total absence of any design to identify the new lights in any way with the old lights. The action would therefore be dismissed, with the usual result as to costs.

ALLEGED OBSTRUCTION OF ANCIENT LIGHTS BY A CHURCH:

ACTION IN THE CHANCERY DIVISION.

THE case of Galton and others *v.* Keens came before Mr. Justice Romer in the Chancery Division on Saturday and Monday last, it being an action brought by the plaintiffs, Messrs. John Charles Galton, Frank Daniell, and Joseph Edwin Crawford Munroe, for a mandatory injunction calling upon the defendant, the Very Rev. Canon Keens, to pull down so much of his church in Upper Cheyne-row, Chelsea, which had been erected after notice of objection was given in January last, on the ground that the portion erected since obstructed the access of light coming to certain ancient windows in Nos. 10 and 14, Upper Cheyne-row, Chelsea. There was also a claim for damages.

Mr. Eve, Q.C., and Mr. Baker appeared as counsel for the plaintiffs, while Mr. Moreton Smith represented the defendant.

The plaintiff, Mr. Galton, was the freeholder and occupier of No. 10, Upper Cheyne-row, and Mr. Daniell was the lessee for a term of sixteen years unexpired, and Mr. Munroe the under-lessee of the term from Mr. Daniell, and occupier of No. 14, Upper Cheyne-row. The plaintiffs' case was that for a great number of years there stood opposite to their property a house known as Orange House, but it was not of a sufficient height to obstruct the access of light coming to the plaintiffs' premises. Orange House was pulled down in 1894, and towards the end of the year the defendant proceeded to erect a church upon the site, advancing it 20 ft. nearer to plaintiffs' premises. The plaintiffs at first thought that the defendant was erecting a small mission chapel, but after an inspection of the plans it was found that the building would be a height of 45 ft. to the eaves and 53 ft. to the roof. On January 8 notice was given to the defendant that the building obstructed the light coming to the plaintiffs' property, and asking that building operations might cease. The building, however, was proceeded with and had since been completed. As the access of light was very much interfered with—in the case of the basement windows by 30 deg. and 50 deg. of sky area having been taken away—the plaintiffs asked for an order directing the defendant to pull down the building, or so much of it as had been erected since notice was given.

Mr. Munroe, one of the plaintiffs, in cross-examination denied that he had been induced to take these proceedings because he objected to a Roman Catholic church being erected opposite his premises. His sole objection to the building was that it interfered with the access of light to his premises. He had asked owners and occupiers in the row to join him in the action, but Mr. Galton and his own immediate landlord were the only persons who did so.

Mr. John William Willoughby, principal Surveying Assistant to Messrs. Weatherall & Green, and an Associate of the Surveyors' Institute, gave evidence as to making a survey of Nos. 10 and 14, Upper Cheyne-row, and as to preparing a certain plan which was produced.

In cross-examination the witness said that when a building was being erected on the other side of a street, 45 deg. of light was the light which one generally desired to leave, but that would not apply to the present case.

His Lordship said that 45 deg. was generally considered sufficient, but it was not settled.

Cross-examination continued.

In front of the basements there was an iron railing 5 ft. high. He thought that the basements before the building complained of had a very fair amount of light. He never saw Orange House in existence.

This evidence having closed the plaintiffs' case, Mr. Moreton Smith, in opening the defence, suggested that the case had been greatly exaggerated. The plaintiffs were the only persons in the road who objected to the building, and if his Lordship was of opinion that the angle of 45 deg. had been infringed to a material degree it could only be to the two lower windows, and to ask for an injunction to pull down a church because the light to two windows had been infringed to a small extent was an exaggerated claim.

His Lordship said that the difficulty in the learned counsel's way was this: If he came to the conclusion that the lower windows were substantially affected, so that the damage was substantial, then it was a question as to whether the plaintiffs were not entitled to a mandatory injunction, at all events so far as regarded one of the houses—Number 14—as the defendant had chosen to go on building after notice of the plaintiffs' claim. Of course, the mandatory injunction would be to pull down only so much of the building as interfered with the ancient lights coming to those two windows.

Mr. Moreton Smith said that he should submit that there had been no substantial damage to the plaintiff's premises. The plaintiff's case was that they were entitled to the same angle of light as when Orange House existed. The plaintiffs had not called any witness who suggested that the letting-value of the houses was at all affected. Supposing the 45 deg. had not been interfered with at all he (the learned counsel) contended that his Lordship would not grant an injunction or give damages.

His Lordship: You must not assume that you are always entitled to build so as to interfere with light up to 45 deg. You know a great deal depends upon the whole of the facts of the case—what light was enjoyed before, and whether the windows are important windows.

Mr. Moreton Smith replied that he was talking of the basement windows. It was not a question of pulling down a little bit of the church, but the plaintiffs claimed a mandatory injunction to pull down the whole of the side of the church.

When the hearing of the case was resumed on Monday, Mr. Eve said that before Mr. Moreton Smith proceeded with his opening he should like to say that Mr. Munroe, who was the gentleman who gave the notice of January 8, had no wish that the church should be pulled down if it could be avoided. Of course, he (the learned counsel) made that remark without prejudice.

His Lordship said that that had occurred to him, and asked if Mr. Galton was in the same frame of mind?

Mr. Eve replied that Mr. Galton was not then present. The learned counsel then suggested that there should be the usual inquiry as to damages.

His Lordship: That is what occurred to me.

Mr. Moreton Smith remarked that upon the inquiry as to damages, the point would, of course, be left open as to how much the light had been interfered with.

His Lordship assented.

Mr. Moreton Smith: Of course the light the plaintiffs were absolutely entitled to would be a very material point. There would be an inquiry as to damages (if any).

His Lordship said that he would hear the defendant's evidence if necessary. In those matters—although he always listened to expert evidence with considerable interest and respect—the Judge had to make up his mind from the building itself and from the position of matters. His view was that there was an interference with the basement and dining-room windows, and what he should propose would be an inquiry as to the damage (if any) to those ancient lights.

Mr. Moreton Smith said that he had the evidence of other owners of houses in the row that the light had not been damaged by the defendant's building.

His Lordship: They are not experts, are they?

Mr. Moreton Smith: They are better than experts I think on this point.

His Lordship: It may be that there is no damage. I daresay, Mr. Smith, that you do not object to there being an inquiry as to what damage (if any) has been sustained to the two lower windows by the erection of the church.

Mr. Eve said that he would rather not be left to the two lower windows.

His Lordship: Well, leave it all open. I think the better course will be to reserve the question of costs. Instead of going to the Chief Clerk, you had, I think, better go to a special or Official Referee.

Mr. Moreton Smith said that he thought they had better go to the Official Referee direct.

His Lordship: Go to a special referee if you can agree on one, and if not, to an Official Referee, if you can agree on one. If you cannot do that, then go to the Official Referee by rotation.

Mr. Eve supposed that the reference would be under Section 13 of the Arbitration Act.

His Lordship said that it might be advisable to reserve the further consideration before him in chambers. He should remember the case if the learned counsel reminded him of it.

Mr. Eve: As your Lordship pleases.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENT.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Rebuilding Infirmary	Bedford Infirmary Com.	80*l.* 40*l.*—80*l.* divided	Dec. 21
*New Club Premises, Hindley, near Wigan	Conservative Club Co. Lim.	10*l.* and 5*l.*	Jan. 24

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
New Road, Eve Hill	Dudley Corporation	J. Gammage	Dec. 17
Improvement Works, Douglas-street, &c.	Halifax Corporation	E. R. S. Escott	do.
Foundation of Church, Llanbradach, Glam.	Rev. H. Thomas	E. M. Bruce Vaughan	do.
Two Cottages, Edzell, Brechin, N.B.	.....	W. Fettis	do.
Seven Cottages, Lydney, Glos.	G. W. Ry. Co.	*Official*	do.
*Erection of Electric Light Station	Leyton U.D.C.	Prof. Henry Robinson	do.
*Paving and Metalling Roads, &c.	Hornsey U.D.C.	E. J. Lovegrove	Dec. 18
Sewering, &c. Adelaide-street	Middleton (Lancs) Corp.	W. Welburn	do.
Granite Kerbing, &c.	Northampton Corp.	W. I. Brown	do.
Night Houses, Eaglescliffe, Durham	N. E. Ry. Co.	W. Bell	do.
Business Premises, English-street, Carlisle	Messrs. Barton	G. D. Oliver	do.
Paving, &c. Britannia-street	Barnsley Town Council	J. H. Taylor	do.
Drainage Works	Sowerby Bridge U.D.C.	Utley & Gray	do.
Sanitary Pipes (8,000 yds.)	do.	do.	do.
Schools, High-street	Heckmondwike Sch. B.	A. A. Stott	Dec. 19
Workshop, House, &c. Chapel-street, Huddersfield	.....	Abbey & Demetriadi	do.
Restaurant, &c. Bridlington Quay, Yorks	W. H. Senior	J. Earnshaw	do.
Pipe Sewer, Gibbet-street	Halifax Corporation	E. R. S. Escott	do.
Pipe Sewers, &c. Cassop Colliery	Durham R.D.C.	G. Gregson	Dec. 20
Pipe Sewers (2½ miles), Thurnscoe	Doncaster R.D.C.	W. Spinks	do.
Additions to Schools, Dewsbury	.....	Holtom & Fox	do.
House and Stabling, Harrogate, Yorks.	.....	Milnes & France	do.
Cottage, Tweedmouth	.....	Wm. Gray	do.
Wood Paving, High-street	Barnstaple T.C.	*Official*	do.
Market Hall, &c. Boothferry-road	Goole U.D.C.	W. J. Tennant	Dec. 21
Enlarging Seaford College, Sussex	Major F. W. Savage	B. A. Miller	do.
Stores, Offices, &c. Bede-street	Amble (Northumberland) Co-op. Soc.	G. Reavell	do.
Offices, Aylesbury	Bucks County Council	R. J. Thomas	do.
Warehouse and Shop, The Calls, Leeds	.....	C. S. Nelson	do.
Lecture Hall and Room, Walkergate	Beverly, &c. Liberal Club Co.	.....	do.
Flagging, &c.	Wakefield Corporation	*Official*	do.
Sanitary Pipe Drains, Cuddington	Aylesbury R.D.C.	do.	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Granite Kerb, &c.	Leicester Corporation	E. G. Mawbey	Dec. 2
Wooden Footbridge, Hoddlesden	Blackburn Corporation	G. W. Lund	do.
Chapel and Lecture Hall, Zion Chapel, Kendal	.....	S. Shaw	do.
*Making-up Linden-grove	Beckenham U.D.C.	J. A. Angell	do.
*Making-up Princes-road	do.	do.	do.
Additions to Schools, Churchtown, Cornwall	Ludg Van Sch. Bd.	.....	do.
Granite Setts, Kerbs, &c.	Ramsgate T.C.	*Official*	Dec. 2
Wesleyan Church and House, North-street, Wareham	Rev. A. Cleaver	.....	do.
*Making-up Streets and Laying Concrete Flags	Walthamstow U.D.C.	G. W. Holmes	Dec. 2
*Police Station, Rickmansworth	Herts C.C.	Urban A. Smith	do.
Waterworks, near Blackburn	Withnell U.D.C.	Brierley & Holt	Dec. 2
Sewers, &c. (six miles)	Stevenage (Herts) U.D.C.	U. Smith	do.
*3,270 yards Run of Oak Fencing	County Borough of West Ham	Lewis Angell	do.
*Extension of Lunatic Asylum	Essex County Lunatic Asylum	Henry Stock	Dec. 2
*Works, Repairs, and Materials, Brighton	War Department	*Official*	do.
Alterations, &c. to Union House	Bangor and Beaumaris Union	R. Davies	Dec. 2
Waterworks	Masham U.D.C.	*Official*	do.
*4,800 yards of Pipe Sewers	Bromley U.D.C.	A. Williams & Son	Jan. 1
Brick and Concrete Pipes (4½ miles)	Dublin Corporation	G. Chatterton	do.
Library, Wick, N.B.	Parish Free Public Library	T. Leadbitter	Jan. 11
*Works and Materials	Hanover Square Vestry	G. Livingstone	do.
Lodge and Gates, Christchurch Park	Ipswich Corporation	J. S. Corder	No date
Four New Roads, Sheffield	Unionist Land Syndicate, Lim.	Smith, Denton, & Co.	do.
Hotel, Derby	F. Ley	J. Wright	do.
Schools, Sycamore-road	Nottingham Sch. Bd.	A. H. Goodall	do.
High Chimney, Guiseley, Yorks.	H. H. Hall & Co.	.....	do.
Two Houses, Whitwell, Derbyshire	.....	W. H. Wagstaff	do.

PUBLIC APPOINTMENT.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Assistant Sanitary Inspector	Leyton U.D.C.	100*l.*	Dec. 18

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi., viii., *&* xviii. *Public Appointment, p.* xvi.

MEETINGS.

MONDAY, DECEMBER 16.

Royal Institute of British Architects.—Dr. Max Ohnefalsch-Richter on "Græco-Phœnician Architecture in Cyprus, with special reference to the Origin and Development of the Ionic Volute." 8 p.m.

Society of Arts (Cantor Lectures).—Mr. W. Worby Beaumont on "Mechanical Road Carriages." III. 8 p.m.

TUESDAY, DECEMBER 17.

Institution of Civil Engineers.—Messrs. Hammersley Heenan and W. Gilbert on "The Design and Testing of Centrifugal Fans." 8 p.m.

Glasgow Architectural Association.—Lecture by Mr. J. A. Morris. 8 p.m.

WEDNESDAY, DECEMBER 18.

Architectural Association (Combined Meeting of Discussion Section and Camera Club).—Mr. E. W. M. Wonnacott on "Holland House." 7 p.m.

Society of Arts.—Mr. J. Southward on "Machines for Composing Letter-press Printing Surfaces." 8 p.m.

Builders' Foremen and Clerks of Works Institution.—Annual Meeting of the Directors. 8 p.m.

FRIDAY, DECEMBER 20.

Architectural Association.—(1) Mr. J. Toomey on "Brickwork"; (2) Mr. R. Rust on "Woodwork." 7.30 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

22,078.—VENTILATORS: *W. Nicol.*—Relates to various methods of applying overlapping suction-action plates of different shapes in section for ventilating purposes. When applied to ventilating-shafts the plates are placed annularly round the top, secured by two rings and surmounted by a bevelled hood or cap. Combined ventilators and lamp or turret lights may be made by forming the section-plates wholly or partly of glass.

24,757.—VENTILATORS: *J. Green and others.*—Deals with such ventilators as consist of a flap and side wings, usually hinged to a frame, and fixed in walls. The modifications consist in making an upward projection along the bottom of frame, and a slot or recess on each side of the winged flap, which corresponds to the projection and forms a hinge. A weighted quadrant is pivoted to the upper part of the frame flange to keep the hinged parts of flap and frame together. The ventilator is held open in any position by means of a spring fixed to the frame and bearing against one of the wings.

2,977.—CIRCULAR SAWS: *H. Ehrhardt.*—Consists of a toothed ring which can be temporarily fastened round the edge of a central disc, so that when the teeth of the ring become worn the ring can be replaced. The central disc and toothed ring are secured together by "hit-and-miss" projections and grooves, or by forming the disc with a rounded or angular periphery and expanding the ring by heating, so that it can be fitted over the edge of the disc and allowed to contract thereon.

10,113.—FIRE-GRATE AND FLUE: *J. Pownall.*—In constructing the fireplace a flanged cast-iron centre spans the opening of the brickwork, cast-iron plates being arranged to rest on the flange at one end and built in the brickwork at the other. A light cast-iron door and frame is fitted on the plates and regulates the draught for the amount of fire, the door being manipulated by a handle and rod from one end of the chimney-breast. Air is supplied to the fuel from outside by means of an air-chamber in connexion with perforated tiles at the back and sides of the grate.

18,113.—GLAZING: *G. Coxhead.*—A method of glazing horticultural and other structures by resting the glass on ledges covered by waterproofed felt, the glass being held in position by special holders of square or rectangular section, and having a rabetted edge for accommodating glass of various thicknesses.

18,347.—DRAIN-TRAPS: *G. Couzens and another.*—A trap for drains consisting of a casing separated into two main chambers by a division which forms the seal, the inlet chamber being closed at top by a removable cover and furnished with a ball and seating forming a valve. Other modifications on a similar principle are described, in which the casing is divided into two or three chambers. In the latter case two vertical walls divide the casing into three chambers, forming a double seal. An inner casing carrying a ball-valve is placed in the central chamber.

18,353.—FIRE-GRATES: *J. Ford.*—In the manufacture of grates for domestic purposes a mantle or outer casing is formed, a chamber being made between said casing and the inner or usual casing. Fresh-air inlets supply air to the chamber, which becomes heated and is utilised for different purposes by means of suitable expellers and conduits.

18,399.—DRAINS: *J. Barron.*—Refers to access-pipes for drains, which may be used instead of an inspection-chamber, consisting of either a single pipe fixed flush with the ground line and connected below with a socket formed on the intercepting-trap, or a single pipe in conjunction with two branch-pipes, the three forming a triple access to main drain and affording means for removing stoppages on either side of the trap. Eccentric and concentric forms of reducing sockets for drain-pipes are also claimed.

NEW APPLICATIONS FOR LETTERS PATENT.

NOVEMBER 25.—22,479, J. Freeman & R. Wessell, Syphon cisterns.—22,490, A. Boult, Artificial Stone.—22,508, W. Rudd, Sash Fastener.—22,509, W. Smith, Sash Fastener.—22,513.—W. Willis, Door-handles.—22,518, A. Johnson, Concrete Floors.

NOVEMBER 26.—22,528, J. Hails, Window Sashes.—22,565, A. Jones, Door Knockers.—22,569, J. Creasey, & T. Breach, Electric Bell-pushes.—22,578, W. Shard, Chimney-top or ventilating head.—22,581, A. Ansell, Apparatus for opening Casements in or out, with air or water-tight joints when closed.—22,598, M. Wolff, Drying Bricks, &c.—22,622, A. Cryer & E. Newby, Excavating Machinery.

NOVEMBER 27.—22,633, M. Adams, Sanitary Closets.—22,654, W. Beer & F. Maxwell, Construction of Arched Bridges, Roofs, Floors, Water-tanks, Conduits, and similar Arched Structures.—22,664, D. Arthur and others, Forms of Water-closet House-gully and Road-gully Channel, to work with Ball-valves automatically in connexion with an Improved System of Ventilating Drains and Sewers.—22,668, T. Tannahill, Window-sashes.—22,689, E. Stuart, Fire-grates.—22,697, J. Monier, Chimney-cowl.—22,728, R. Smith, Nails, Screws, &c.

NOVEMBER 28.—22,772, J. Shanks, junr., Syphonal-cisterns for Water-closets, &c.—22,800, A. Studd, Alarms for Doors.—22,805, A. Reiche, Bakers' Ovens.

NOVEMBER 29.—22,881, F. Lamplough & F. Shipton, Door-spring and Checks.

NOVEMBER 30.—22,922, G. Sankey, Covering the Wall-surfaces of the Interiors of Buildings, Ceilings, &c. 22,931, A. Cameron, Opening Windows inwardly.—22,942, A. Jack, Windows and Window-frames.—22,946, A. Hewitt, Latches for Doors, &c.—22,962, H. Thomson, Flushing Water-closets, Sewers, &c.

PROVISIONAL SPECIFICATIONS ACCEPTED.

20,100, J. Green and W. Oates, Latrine Water-closets.—20,721, J. Edwards and P. Pepin, Door-silencers, &c., for the sides of Doors, Casements, and other openings.—20,900, W. Turton, Fire and other Bricks.—21,006, A. Boult, Flushing Apparatus.—21,035, C. Hocking, Ventilators.—21,063, H. Ford, Sash-fasteners for Windows.—20,179, J. Bowley, Bolts or Fastenings for Doors, &c.—21,298, P. Waldram, Forming Joints between Lead or similar material and Earthenware or similar material.—21,431, J. Brierley and S. Melling, Coupling Lead Pipes to Lead or other Metal Pipes or to Taps.—21,618, T. Marshall, Window-sashes.—21,631, F. Julien, Bricks.—21,641, J. Ely, Glazed or Glossy Surfaces for Walls, &c.—21,838, J. Wigglesworth, Stoves and Fireplaces.—21,921, G. Thomson, Artificial Stone Roofing and other Tiles and Enamel, and an apparatus therefor.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

23,050, C. Pegram, Metal Sheets for the Construction of Fireproof Buildings.—23,243, W. Thompson, Workmen's Time-recorders.—2,358, J. Hall, Kilns.—6,461, J. Grad, Protective Lattice for Windows.—20,757, A. Wright, Fireproof Floors and Ceilings.

SOME RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

NOVEMBER 13.—By *John Young* (at Newport): "Cefn Coch Farm," Mynyddyslwyn, Mon., 69 a. 0 r. 23 p., at 2 800*l.*; "Cwn-Felin-Fach Estate," containing 28 a. 1 r. 17 p., c., 1,925*l.*

NOVEMBER 19.—By *W. J. May & Son* (at Liskeard): "Hendra" and "Tregartha" Farms, Menheniot, Cornwall, 191 a. 3 r. 10 p., f., 7,330*l.*

NOVEMBER 27.—By *McEwan, Brown, & Wyatt* (at Boscombe): A building lease for 999 yrs. of 26 plots of land, Sea-rd., &c., Boscombe, let at 772*l.* per annum.

NOVEMBER 29.—By *Parsons & Son* (at Brighton): F.g.r. 3*l.* 8s., Margaret-st., Brighton, Sussex, reversion in 396 yrs., 85*l.*; 13, 14, and 15, Margaret-st., f., r. 65*l.*, 1,015*l.*; 87 and 88, St. James-st., f., r. 116*l.*, 1,905*l.*; 12 to 15, Egremont-st., f., r. 28*l.* 12s., 220*l.*; 133, Edward-st., u.t. 4 yrs., g.r. *nil*, 50*l.*; 6 and 7, Western-st., u.t. 13 yrs., g.r. 15*l.*, r. 65*l.*, 295*l.*; 14, Boyces-st., c., r. 23*l.* 8s., 320*l.*; 11, Windsor-st., f., r. 26*l.*, 450*l.*—By *Sales & Wiltshire* (at Woolwich): 19, Engineer-rd., Woolwich, Kent, u.t. 34 yrs., g.r. 2*l.* 12s., 195*l.*; 2, 6, 7, 8, 10, 12, 23 to 29, and 33 to 39 odd, Fenwick-st., u.t. 54 yrs., g.r. 29*l.* 15s., 1,605*l.*; 31, Fenwick-st., u.t. 52 yrs., g.r. 4*l.* 10s., 75*l.*

DECEMBER 2.—By *E. Holsworth:* 209, Clapham-rd., Clapham, f., r. 50*l.*, 800*l.*—By *Millar, Son, & Co.:* 4, Ormonde-ter., Regent's Pk., and 6, Lancaster Mews, u.t. 24½ yrs., g.r. 23*l.*, 810*l.*—By *Rutley, Son, & Vine:* 35, Langdon-rd., Holloway, f., r. 33*l.* 16s., 320*l.*; 56, Fortess-rd., Kentish Town, u.t. 17¾ yrs., g.r. 10*l.* 10s., r. 42*l.*, 150*l.*; 27, Tonbridge-st., St. Pancras, u.t. 10¾ yrs., g.r. 16*l.* 16s., 35*l.*; 27, Hetherington-rd., Clapham, u.t. 71 yrs., g.r. 8*l.* 10s., r. 35*l.*, 230*l.*; "Cicala House," Finchley-rd., Kilburn, f., r. 36*l.* 8s., and f.g.r. 5*l.*, reversion in 58 yrs., 200*l.*; 64, Albert-rd., u.t. 67 yrs., g.r. 5*l.* 5s., r. 45*l.* 10s., 180*l.*; 11, Firbank-rd., Peckham, u.t. 80 yrs., g.r. 6*l.* 6s., 275*l.*—By *T. B. Westacott:* 45, Rathbone-pl., Oxford-st., u.t. 10 yrs., g.r. 100*l.*, r. 185*l.*, 150*l.*—By *Weatherall & Green:* Twenty-two plots of building land, Station-rd., Chingford, f., 1,665*l.*; a corner plot of land, Farnley-rd., f., 95*l.*; "Tamworth Villa," Mornington-rd., f., r. 35*l.*, 380*l.*

DECEMBER 3.—By *Coltman & Baker:* 10, Artillery-lane, Spitalfields, f., r. 65*l.*, 1,200*l.*; 111 and 113, Pk.-rd., Crouch End, f., r. 24*l.*, 440*l.*—By *J. A. Lumley & Co.:* 16, Castlenau-gardens East, Barnes, u.t. 44 yrs., g.r. 2s. 6d., r. 45*l.*, 650*l.*; 13, Curzon-st., Mayfair, u.t. 852 yrs., g.r. 6*l.* 12s., r. 185*l.*, 8,300*l.*—By *C. W. Davies:* 275, Seven Sisters-rd., Finsbury Pk., u.t. 67 yrs., g.r. 11*l.*, r. 65*l.*, 470*l.*—By *T. N. Turner:* 64, Earl-st., Marylebone, u.t. 19¾ yrs., g.r. 6*l.* 6s., r. 40*l.*, 190*l.*; 58, Queen's-rd., Twickenham, u.t. 72 yrs., g.r. 7*l.* 10s., r. 28*l.*, 245*l.*—By

Mark Lidll & Son: 116, St. Stephen's-rd., Bow, f., r. 27*l.*, 350*l.*; 5 and 7, Galt-st., Limehouse, u.t. 17 yrs., g.r. 54*l.*, r. 54*l.* 12s., 140*l.*; Maroon-st., f. iron tank works and premises, r. 100*l.*, 800*l.*—By *E. Waterman* (at Dartford): 120 to 138 (even), Lowfield-st., Dartford, Kent, f., r. 110*l.*, 900*l.*

DECEMBER 4.—By *Glasier & Sons:* 5, Stratheden Villas, Peckham, u.t. 70½ yrs., g.r. 6*l.* 10s., e.r. 50*l.*, 265*l.*—By *Frank Jolly & Co.:* 32, Hampstead-rd., St. Pancras, u.t. 65 yrs., g.r. 18*l.*, r. 110*l.*, 1,530*l.*; three freehold shops and a stable, High-rd., Ilford, r. 105*l.*, 1,285*l.*—By *E. W. Richardson & Son:* 45 and 47, Wilton-rd., Dalston, u.t. 58 yrs., g.r. 7*l.*, r. 44*l.*, 440*l.*—By *Drew & Son* (at Richmond): "Norfolk House," Kew-rd., Richmond, Surrey, and ½ of an acre, u.t. 74 yrs., g.r. 27*l.* 10s., 1,600*l.*

DECEMBER 5.—By *Messrs. Elloart:* 148, Gipsy Hill, Norwood, u.t. 71 yrs., g.r. 7*l.* 7s., e.r. 32*l.*, 215*l.*—By *H. Smallman & Co.:* 65, Campbell-rd., Finsbury Pk., u.t. 72 yrs., g.r. 7*l.*, r. 31*l.* 4s., 120*l.*—By *Chesterton & Sons:* 128 and 130, High-st., Notting Hill, f., r. 235*l.*, 4,430*l.*—By *Rushworth & Stevens:* 15, Hawley-rd., Kentish Town, u.t. 40½ yrs., g.r. 5*l.*, 360*l.*; 45 to 63 odd, Neath-pl., Bethnal Green, u.t. 43½ yrs., g.r. 20*l.*, r. 130*l.*, 365*l.*—By *W. T. Marsh:* 68, Kensington Pk.-rd., Bayswater, f., r. 80*l.*, 1,000*l.*

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	10/0/0 16/0/0
Sequoia, U.S. ft. cu		1/10 2/0
Ash, Canada load		3/5/0 4/10/0
Birch, do.		2/15/0 4/15/0
Elm, do.		4/0/0 5/5/0
Fir, Dantsic, &c.		2/0/0 3/10/0
Oak, do.		2/15/0 4/15/0
Canada		6/10/0 8/0/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		2/15/0 5/0/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga, &c., log		2/15/0 5/0/0
Odessa, crown		2/15/0 5/0/0
Deals, Finland and ¼ 1st std	100	7/0/0 8/10/0
Do. 4th & 3rd		7/0/0 8/0/0
Do. Riga		7/0/0 8/0/0
St. Petersburg, 1st yellow		9/10/0 12/0/0
Do. 2nd yellow		7/10/0 9/0/0
Do. white		8/0/0 9/10/0
Swedish		7/0/0 15/10/0
White Sea		7/15/0 14/15/0
Canada, Pine 1st		21/0/0 25/0/0
Do. do. 2nd		16/0/0 17/0/0
Do. do. 3rd, &c.		8/0/0 10/0/0
Do. Spruce, 1st		9/0/0 10/10/0
Do. do. 3rd and 2nd		6/10/0 7/10/0
New Brunswick		6/0/0 7/0/0
Battens, all kinds		5/0/0 20/0/0
Flooring boards, sq., 1 in. prep.		0/9/6 0/14/6
Do. 2nd		0/6/6 0/11/6
Other qualities—		0/4/6 0/7/6
Cedar, Cuba	ft.	/4 /4½
Honduras, &c.		/3½ /4½
Mahogany, Cuba		/3½ /6
St. Domingo, cargo av.		/3½ 1/0
Mexican do. do.		/4 /4½
Tobasco do. do.		/4½ /6
Honduras do.		/4 /6
Box, Turkey	ton	4/0/0 15/0/0
Rose, Rio		7/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin, St. Domingo		0/0/5 0/1/0

TIMBER *continued*.		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3 0/0/7

METALS.		
Iron—Pig, in Scotland	ton	2/7/0½ 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		45/12/6 45/17/6
Best selected		46/5/0 46/10/0
Sheets, strong		53/0/0 0/0/0
Chili bars		42/16/3 43/1/3
YELLOW M'TAL	lb	0/0/4 9-16 0/0/4⅝
LEAD—Pig Spanish	ton	11/10/0 0/0/0
English com. brands		11/12/6 11/15/0
Sheet, English, 6 lbs. per sq. ft. and upwards		12/10/0 12/12/6
Pipe		12/10/0 0/0/0
ZINC—English sheet	ton	18/5/0 18/10/0
Vieille Montagne		18/15/0 0/0/0
TIN—Straits		61/17/6 62/7/6
Australian		62/17/6 63/7/6
English Ingots		66/5/0 66/10/0
Banca		65/0/0 65/12/0
Billiton		64/10/0 65/0/0

OILS.		
Linseed	ton	19/10/0 20/0/0
Cocoanut, Cochin		25/10/0 0/0/0
Do. Ceylon		22/10/0 22/15/0
Palm, Lagos		22/10/0 0/0/0
Rapeseed, English pale		24/5/0 24/10/0
Do. brown		22/15/0 23/0/0
Cottonseed ref.		17/0/0 17/10/0
Oleine		19/10/0 20/10/0
Lubricating, U.S.		6/6/0 8/9/0
Do. black		4/9/0 6/6/0
TAR—Stockholm	barrel	0/19/6 0/0/0
Archangel		0/15/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish lists in which the accepted Tender is below £100.]

BANGOR (Ireland).—For the erection of school buildings, work to be done for National Board of Education, Ireland, and Trinity Church, Bangor. Mr. Kirker, Board's Architect, Belfast:—
James Colvelle, Dufferin-avenue, Bangor, co. Down ..£750

BEVERLEY.—Accepted for paving, sewering, levelling, &c., Norwood-grove, for the Corporation:—
Jas. Constable, Newbegin, Beverley £157 15 9

BOSTON (Lincolnshire).—For the erection of "The Park Board School" to accommodate 695 children, for the Boston School Board. Mr. James Rowell, architect, Boston:—
Wadsley & Co. .....£5,040 | J. Lucas, Boston* £3,863
S. Sherwin ..... 3,993 | * Accepted.

CAMBERLEY.—For the supply and laying of 10,000 ft., 6-in. by 12-in., blue pennant kerbing, for the Frimley Urban District Council. Mr. W. J. Hodgson, C.E., Surveyor, High-street, Camberley:—

	Straight. Per Foot.	Radius. Per Foot.
	s. d.	s. d.
W. Cocker	1 5½	2 10
W. Harris	1 3	2 5
Spear & King	1 3	1 7
Free & Sons	1 6½	1 3½
Free Bros.	1 1	1 1

CARDIFF.—For the erection of stabling, cart-shed, &c., Tradestreet depôt, for the Corporation. Mr. W. Harpur, C.E., Borough Engineer, Town Hall, Cardiff. Quantities by Borough Engineer:—

E. A. Ridgeway	£2,958	18 7	George Griffiths £2,528 4 3
D. J. Davies	2,822	11 5	David Davies 2,411 0 0
Frank Ashley	2,714	3 7	E. Turner & Son..... 2,382 17 0
H. Lewis & Son	2,710	18 4	Latty & Co. 2,378 0 0
Thos. D. Ridley	2,648	9 11	James Allan 2,242 0 0
Chas. C. Dunn	2,618	0 0	W. T. Morgan* 2,200 0 0

* Accepted.
[All of Cardiff.]

HERNE BAY (Kent).—For the supply of road materials, granite, &c., for the Urban District Council. Mr. F. W. T. Palmer, surveyor, High-street, Herne Bay:—

Contract No. 1.—Broken Cherbourg quartzite and chippings.

	Broken quartzite at per cubic yard.		Quartzite chippings at per cubic yard.		Blue Guernsey granite at per ton. By rail.	Other granite at per ton. By rail.		Chippings.
	By rail.	By barge.	By rail.	By barge.		Sample No. 1.	Sample No. 2.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Kent Road Maintenance and Stone Supply Company, Limited	14 5	13 2	12 11	11 8	—	—	—	—
S. Trickett & Sons	13 3	per ton.	—	—	—	—	—	—
R. Lake, jun.	14 9	13 10	13 9	12 10	—	—	—	—
L. Sommerfeld	15 8	13 0*	13 6	10 10*	—	—	—	—
John Mowlem & Co.	—	—	—	—	11 0	—	—	—
Paramor & Sons	—	—	—	—	—	15 10	15 4	15 10

Contract No. 2.—Artificial Cement Kerbing and Tram Channel.

	Artificial Cement Kerb at per lineal ft.		Ditto Circular at per lineal ft.		Artificial Cement Tram Channel at per lineal ft.		Ditto Circular at per lineal ft.		Other Kerb at per lineal foot.	Ditto Circular at per lineal foot.	Other Tram Channel at per lineal foot.	Other Circular at per lineal foot.
	Rail.	Barge.	Rail.	Barge.	Rail.	Barge.	Rail.	Barge.	By Barge.	By Barge.	By Barge.	By Barge.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
The Patent Victoria Stone Co., Ltd.	2 1	2 0	2 1	2 0	2 1	2 0	2 1	2 0	—	—	—	—
P. P. Croft Granite, Brick, and Concrete Co.	1 1	—	1 3	—	1 4	—	1 6	—	—	—	—	—
John Mowlem & Co.	0 10	—	1 0	—	1 0	—	1 2	—	—	—	—	—
The Imperial Stone Co., Ltd.	1 0	1 0	1 3	1 3	1 3	1 3	1 3	1 5	—	—	—	—
Kent Road Maintenance and Stone Supply Co., Ltd.	0 10	0 10	0 11	0 11	0 10	0 0	0 11	0 11	—	—	—	—
R. Lake, jun.	0 11	—	0 11	—	—	—	—	—	—	—	—	—
E. J. Van Praagh & Co.*	—	—	—	—	—	—	—	—	1 1½	1 3½	1 6½	1 2⅝

Contract No. 3.—York Paving.

	2½in. York Paving Stone at per superficial feet delivered at Herne Bay Railway Station.	
Kaltenbach & Schmitz	2s. 3½d.	
Ellis Robinson	8 5-9d. or 6s. 5d. (per superficial yd.)	Knotted & squared ready for laying. Tooled & squared ready for laying.
Ellis Robinson*	8 8-9d. or 6s. 8d. (per superficial yd.)	
Joseph S. Gabriel	5½d.	
John Mowlem & Co.	1.d.	
L. Sommerfeld	10d.	
S. Trickett & Sons	1 1-4d.	
Cooper Bros.	9½d.	
Rawson Bros.	9¼d.	
Wm. Griffiths	9⅛d.	
Benj. Farrar & Co.	9⅛d.	
Paramor & Sons	9 15-16d.	

* Accepted.

CARDIFF.—For the erection of a public urinal, St. Andrew's-place, for the Corporation. Mr. W. Harpur, C.E., Borough Engineer, Town Hall, Cardiff. Quantities by Borough Engineer:—

For St. Andrew's-place Urinal.
Gerard Hallett, Cardiff £384 5 9

For Urinal at Four Elms Hotel.
Gerard Hallett, Cardiff 208 2 4

DONCASTER. — For the erection of boiling-house, &c., at Hexthorpe, near Doncaster, for the Doncaster Mutual Co-operative and Industrial Society, Ltd. Messrs. Athron & Beck, architects. Quantities by the architects:—
C. Sprakes & Sons .....£450 | J. Athron, jun. (accepted)..£440

DONCASTER.—For the erection of stabling, club-room, &c., at Low Valley, for Mr. T. Dymond. Messrs. Athron & Beck, architects. Quantities by the architects:—
B. Wortley.....£724 17 | Robinson £683 0
Hammerton ..... 705 0 | Johnson 649 0

DONCASTER.—For the erection of cottages, &c., at Conisbro, near Rotherham, for the Doncaster Mutual Co-operative and Industrial Society, Ltd. Messrs. Athron & Beck, architects. Quantities by the architects:—
W. Aneley .....£2,800 0 0 | J. Athron, jun., Doncaster (accepted) .£2,690 0 0
J. Dawning 2,764 1 7
Arnold & Son 2,705 0 0

DONCASTER.—For the erection of new shops, &c., at South Kirby, near Doncaster, for the Doncaster Mutual Co-operative and Industrial Society, Ltd. Messrs. Athron & Beck, architects. Quantities by the architects:—
W. Aneley .....£957 | Arnold & Son* £920
W. Johnson ..... 953 | * Accepted.

DONCASTER.—For rebuilding factory, &c., in French Gate, Doncaster, for Messrs. Killingrey & Co. Messrs. Athron & Beck, architects. Quantities by the architects:—
Arnold & Sons.....£1,870 | D. Gill & Son £1,672
Sprakes & Son ..... 1,750 | W. Aneley* 1,665
W. Johnson ..... 1,747 | J. Athron, jun. †..... 1,608
* Accepted at schedule of prices. † Withdrawn.

DONCASTER.—For the erection of new stores in Station-road, Doncaster, for the Doncaster Mutual Co-operative and Industrial Society, Ltd. Messrs. Athron & Beck, architects. Quantities by the architects:—
W. Aneley .....£8,250 0 | J. Athron, jun. £7,800 0
Mullins & Richardson 7,996 14 | Arnold & Son* 7,450 0
* Accepted.
[Architect's estimate, £7,465.]

DROXFORD (Hants.)—For additions, &c., ward and mortuary, at the workhouse, for the Union Guardians. Mr. William Gilbert, architect, Bishop's Waltham:—

	Ward.	Mortuary.
Thos. Westbrook	£248 0 0	£38 0
Child & Son	225 0 0	36 0
H. Meredith	225 9 11	43 10
Hale Bros.	243 0 0	38 10
Wm. Green, Memstoke, Bishop's Waltham (aecepted)	179 0 0	21 10

DUNDEE.—Accepted for additions to Newport Public Schools, or the Lorgan School Board. Mr. T. Martin Cappon, architect, 30, Reform-street, Dundee:—

Masonry.—Robert Tait, Newport	£220 10
Joinery.—Garvie & Farquharson, Dundee	125 0
Plumbing.—James S. Jack, Newport	32 0
Plastering.—Wm. Ferrie, Newport	23 15
Slating.—J. Storrier, Newport	28 0

EALING.—Accepted for repairs to shop, High-street, Ealing. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C.:—
T. Osborn & Sons £117

EXMOUTH.—For the conversion of a building into bailiff's-cottage, dairy, &c., Prattshayes, for Mr. J. D. Pratt. Mr. Procter Sherwin, architect, Madeira Lodge, Exmouth:—
A. Hayman .....£229 9 | E. Camell £175 0
H. Dart ..... 178 0 | R. Grace, Exmouth* 173 0
* Accepted.

FENNY STRATFORD (Bucks.).—For additions, &c., to school-buildings, Bow Brickhill, for the School Board. Mr. Wm. Pool, architect, Woburn Sands, Beds.:—
Gates & Wootton.....£258 10 | Kilsby £185 10
Rootham & Jakins ..... 219 3 | T. W. Clarke, Fenny
D. Mann..... 189 15 | Stratford (accepted) .. 149 0
Fathers 189 0

HUNSTANTON.—For public offices, Hunstanton, Norfolk, for the Urban District Council. Messrs. George J. & F. W. Skipper, architects, Norwich:—

	Building.	Extra for Bath stone.	Gallery.
	£	£	£ s.
J. Botterill	2,765	78	45 0
J. Beeton	2,475	272	39 9
J. Youngs & Son	2,435	104	34 0
T. Gill	2,397	100	32 0
Collins & Barber	2,375	100	42 0
J. Nelson	2,150	100	40 0
W. H. Brown	2,148	123	43 0
Bardell Bros	2,050	195	42 0
S. Hipwell, Wisbech*	1,970	108	35 0

* Accepted.

LONDON.—For sundry alterations and shop-fittings at 104 and 106, Old Bond-street, for Messrs. Hillbronner, 300, Oxford-street. Messrs. Treleaven & Payne, architects, John-street, Adelphi:—
Hall, Bedall, & Co. .....£1,195 | W. Sumner & Co.....£849
Bywater & Sons..... 1,038 | Allen & Sons 835

LONDON.—Accepted for sundry alterations of new front, &c. at 4, King William-street, Strand, for A. Stokes & Co.:—
W. Sumner & Co., Ltd.....£166

LONDON.—Accepted for alterations, decorations, and shop-fitting at 157, New Bond-street, for Messrs. Starley & Co., Ltd.:—
W. Sumner & Co., Ltd.....£321

LONDON.—Accepted for alterations and new shop-front at 149, Duke-street, Oxford-street, for Mr. A. Smith, 396, Oxford-street:—
W. Sumner & Co., Ltd.....£118

LONDON.—For the erection of a block of school buildings and appurtenances, &c., to be known as the Harold-road Schools, for the West Ham School Board, Messrs. Newman & Jacques, architects. Messrs. R. L. Curtis & Sons, surveyors:—
Maddison.....£22,165 | Stimpson & Co..... ....£19,960
Reed & Sons..... 19,997 | Koch, Knight, & Co..... 19,700
C. G. Hill..... 19,990 | Gregar & Son 18,866
H. Flint ..... 19,987 | G. Sharp (accepted) 18,523

LONDON.—For making-up Earlham, Northbrook, and Gathorne-roads, Wood Green. Mr. C. J. Gunyon, Surveyor, Town Hall, Wood Green:—
F. A. Jackson & Son£2,729 15 8 | W. Nicholls £2,477 18 0
T. Rowley..... 2,711 4 10 | Patent Victoria Stone
A. T. Catley..... 2,536 0 0 | Co. 2,456 8 4
Geo. Bell ..... 2,520 10 0 | T. Adams 2,366 1 4
J. Bloomfield ..... 2,518 6 4 | W. Griffiths, Kingsland* 2,349 7 10
W. T. Williamson & Son 2,502 0 0
* Accepted subject to the approval of the Local Government Board.

LONDON.—For rebuilding Nos. 11 and 12, Hatfield-street, and French Alley, E.C., for Mr. J. Storey. Mr. John Groom, architect. Quantities by Mr. Henry Theobald, F.S.I., No. 48, Finsbury Pavement, E.C.:—
Killby & Gayford .....£4,645 | Woodward & Co. £4,253
H. L. Holloway ..... 4,430 | Stimpson & Co. 4,140
Scrivener & Co. ..... 4,406 | Mattock Bros. (accepted) 3,977

LONDON.—For the manufacture, delivery, and erection of three 28-in. centrifugal pumps, shafting, and other accessories required at the Heathwell pumping-station now in course of construction, for the London County Council:—
R. Warner & Co. ..... £3,330 0 | Blakeborough & Sons ..£2,556 0
Comes, Martin, & Co.. 2,770 0 | Gwynne & Co.* 2,272 0
Drysdale & Co..... 2,680 0 | John Cochrane 2,200 0
Tangyes, Ltd. ..... 2,675 0 | W. Beaumont 1,925 4
Entwistle & Gass, Ltd. 2,570 0 | W. R. Renshaw & Co.. 1,839 0
* Accepted.

LONDON.—Accepted for repairs to various shops of Messrs. Davies & Evans, Ltd. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, E.C.:—

	£ s. d.
L. D. Bardwell	88 10 0
John Wynne	171 19 6
T. Osborn & Sons	520 0 0
C. H. Boyd	117 1 2
P. Hart	152 10 0
	1,050 0 8

LONDON.—Accepted for the docking and repair of the s.s. *Barking*, for the London County Council:—
Messrs. Mills & Knight.....£220

'LONDON.—For providing and fixing a complete system of low-pressure hot-water apparatus and Trentham boilers, for warming the whole of the school now being built on the site in Fircroft-road, Tooting, for the School Board for London. Mr. T. J. Bailey, Architect:—

J. Gibbs & Son	£919	J. F. Clarke & Sons	£650
Richardson & Co.	857	J. Wontner-Smith, Gray, & Co.	644
Strode & Co.	757	W. G. Cannon & Sons, London-road, S.E.*	572
Maguire & Son	774		
Duffield & Co.	686		

* Recommended for acceptance by the Works Committee.

LOWESTOFT.—Accepted for new house. Mr. T. E. Key, architect, 5, Bloomsbury-square, W.C.:—
A. Cox £1,620

MAIDENHEAD.—For the supply of sandstone, kerb, and pitching: also laying same, for the Urban Sanitary Authority. Mr. Thomas Nash, Borough Surveyor, Maidenhead:—
Free & Sons, Maidenhead and Bristol ..At schedule of prices.

NEWPORT (Mon.).—For the construction of an iron footbridge, Rodney Parade (Contract No. 2), for the Harbour Commissioners. Messrs. T. Dyne Steel, C.E., & Conyers, Kirby, & Son, C.E., Skinner-street, Newport:—

Moodey, Carney, & Co., Ltd.	£271 0 0	Phœnix Foundry Co.	£169 0 0
Allsup & Co.	210 0 0	Rubery & Co.	150 0 0
E. Finch & Co.	190 0 0	T. Woodall	147 15 8
E. C. & I. Kery, Ltd.	182 0 0	Malego Vale Iron Works Co., Bristol*	147 10 0
Somervail & Co.	177 0 0	J. S. Ellis	138 10 0
WorkingtonBridgeCo.	175 0 0		

* Recommended for acceptance.

NORTH SHIELDS.—For the construction of roadways and footpaths, Rosehill, for the Tynemouth Rural District Council. Mr. John Waters, C.E., Long Benton, near Newcastle-on-Tyne. Quantities by Engineer:—

Paving back streets and laying cement concrete footpath.

Geo. T. Manners	£432 19 9	James McLaren	£249 13 6
John Adams	375 3 6	Geo. E. Simpson, Ellison-terrace, New castle*	238 5 0
John Thompson	361 17 3		
John J. & J. Robson	284 10 0		
J. William Robson	273 16 6		

* Accepted.

Laying cement concrete footpath only.

John Rule	£79 0 0	John T. Dove	72 14 6

PETERBOROUGH.—For the erection of a dwelling-house, Green-lane. Mr. J. G. Stallebrass, architect, North-street, Peterborough:—

Watson & Lucas	£225 0	Binder	£185 0
Walker	190 0	Nichols	182 0
Guttridge	190 0	Cracknell	179 0
Clare & Spriggs	186 10	Pape (accepted)	174 0

PETERBOROUGH.—For additions, &c., to school buildings, Dogsthorpe. Mr. J. G. Stallebrass, architect, North-street, Peterborough:—

Thoday & Co.	£526 0	Clare & Spriggs	£350 0
Jellings	400 14	Aspittle & Neaverson	345 0
Pine & Letall	400 0	Pape	336 0
Watson & Lucas	400 0	Nichols	325 0
Cracknell	378 0	Guttridge, Peterborough*	300 0
Sibley	370 0		

* Accepted.

PETERBOROUGH.—For the erection of cast-iron fences, gates, dwarf walls, &c., next Broadway, Peterborough, for the Cemetery Commissioners. Mr. Jas. Ruddle, architect, Boroughbury, Peterborough. Quantities by architect:—

Thompson	£721	Guttridge	£673
Wenlock	715	Sneath	670
Nichols	685	Amies, Long Causeway*	641

[All of Peterborough.]
* Accepted.

SUTTON COLDFIELD (Warwickshire).—For the erection of a house and stabling, &c. Mr. J. A. Jones, architect, Sutton Coldfield. Quantities by Mr. Anthony Rawse, Newhall-street, Birmingham:—

	House.	Stabling, &c.	Fencing-gates, &c.
J. Harley & Son	£3,226	£568	£97
Thomas Rowbotham	3,220	560	90
W. Sapcote & Sons	3,098	539	89
W. & J. Webb	2,990	510	85
J. Barnsley & Sons	2,988	496	90
Mark Lloyd*	2,943	495	80

* Accepted.

UCKFIELD (Sussex).—For the execution of road-works, Alexandra-road, and three others, for the Urban District Council:—

E. Steer	£229 8 0	W. H. Holman & Co., Brighton*	£186 17 1
S. Hudson	220 0 0	E. Gutsell	185 0 0
Tyhurst & Son	205 12 0	S. Stevens, Uckfield†	19 10 0

* Accepted. † Part only.

WARGRAVE (Berks.).—For the Wargrave and Twyford Waterworks. Mr. A. Marshall, C.E., Swadlincote:—

Walden & Cox	£6,852 3 7	Mackay & Davis	£4752 0 9
Johnson Bros.	6,578 13 1	Free & Sons	4,710 18 1
W. H. Drake & Co.	6,472 12 8	Lee & Son	4,679 14 10
Solden & Hipwell	5,630 0 5	Geo. Gibson	4,645 6 8
William Coker	5,405 1 11	Knight & Gregory	4,582 12 6
B. Cooke & Co.	5,146 12 11	R. C. Brebner	4,492 3 2
R. Holmes & Co.	5,135 2 5	H. Roberts	4,345 11 11
James Holmes	5,093 10 9	M. S. Kitteringham, Enfield, Middlesex (accepted)	4,136 7 6
G. H. Gibson	5,036 8 0		
R. R. Facey	4,883 11 10		
Ward & Cannon	4,760 16 5		

WEST MALLING.—For alterations and improvements to Boys' and Girls' schools, for the School Committee. Mr. Walter Goodwin, architect:—
T. Webb, East Peckham, (accepted as amended) £511

Sanitary Works at Stepney Union.—In our issue of November 30, page 468, the name of Wales & Co. occurs. Mr. G. Wales, of Kenton-road, South Hackney, writes to say that the name of the firm is George Wales, and that no other person is connected with him. The mistake was not ours.

TO CORRESPONDENTS.

M. W. (below our limit).

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

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Registered Telegraphic Address, 'THE BUILDER,' LONDON.

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Each additional line (about ten words) ..... 0s. 6d.

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Advertisements for the current week's issue are received up to THREE o'clock p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after HALF-PAST ONE p.m. on that day. Those intended for the front Page should be in by TWELVE noon on WEDNESDAY.

SPECIAL.—ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before 10 a.m. on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

PERSONS Advertising in "The Builder," may have *Replies addressed to the Office*, 46, Catherine-street, Covent Garden, W.C., *free of charge*. Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES, { NINEPENCE EACH. By Post (carefully packed), 1s.

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THE BATH STONE FIRMS, Ltd.
BATH,
FOR ALL THE PROVED KINDS OF
BATH STONE.
FLUATE, for Hardening, Waterproofing, and Preserving Building Materials.

HAM HILL STONE
The attention of Architects is specially invited to the durability and beautiful COLOUR of this material. Quarries well opened. Quick despatch guaranteed. Stonework delivered and fixed complete. Samples and estimates free. Address, The Ham Hill Stone Co., Norton, Stoke-under-Ham, Somerset. London Agent: Mr. E. A. Williams, 16, Craven-st., Strand, W.C. [ADVT.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

SPRAGUE & CO.,
PHOTOLITHOGRAPHERS,
4 & 5, East Harding-street,
Fetter-lane, E.C. [ADVT.

QUANTITIES, &c., LITHOGRAPHED accurately and with despatch.
METCHIM & SON, 20, Parliament-st. S.W.
"QUANTITY SURVEYORS' TABLES,"
For 1896, price 6d. post 7d. In leather 1/- Post 1/1 [ADVT.

J. J. ETRIDGE, Jr.
SLATE MERCHANT,
SLATER and TILER.
ESTIMATES GIVEN FOR
SLATING AND TILING,
To be Executed by Contract in any part of ENGLAND.
Penrhyn - Bangor,
Oakeley - Palmerston,
And other description of Slates ready for immediate delivery to any Railway Station.
Applications for Prices, &c., to
BETHNAL GREEN SLATE WORKS,
BETHNAL GREEN, LONDON, E.

THE
French Asphalte
COMPANY,
Suffolk House, Cannon-street, E.C.
SUPPLY THE BEST MATERIAL AND WORKMANSHIP FOR BUILDINGS, DAMP COURSES, AREAS, ROOFS, WASH-HOUSE AND DAIRY FLOORS, &c., &c.
This Asphalte was chosen to be laid at Sandringham, on the new General Post Office, and other important buildings.

TWELVE GOLD AND SILVER MEDALS AWARDED.
ZINC AND COPPER ROOFING.
F. BRABY & CO.
LONDON. ◆◆ LIVERPOOL. ◆◆ GLASGOW.
352 to 364, Euston-road, N.W. 6 and 8, Hatton Garden. 47 and 49, St. Enoch-square.
VIEILLE MONTAGNE SOLE MANUFACTURING AGENTS.
NO SOLDER. NO EXTERNAL FASTENINGS.
Particulars on Application. *Chief Offices: Fitzroy Works, EUSTON ROAD, LONDON, N.W.*

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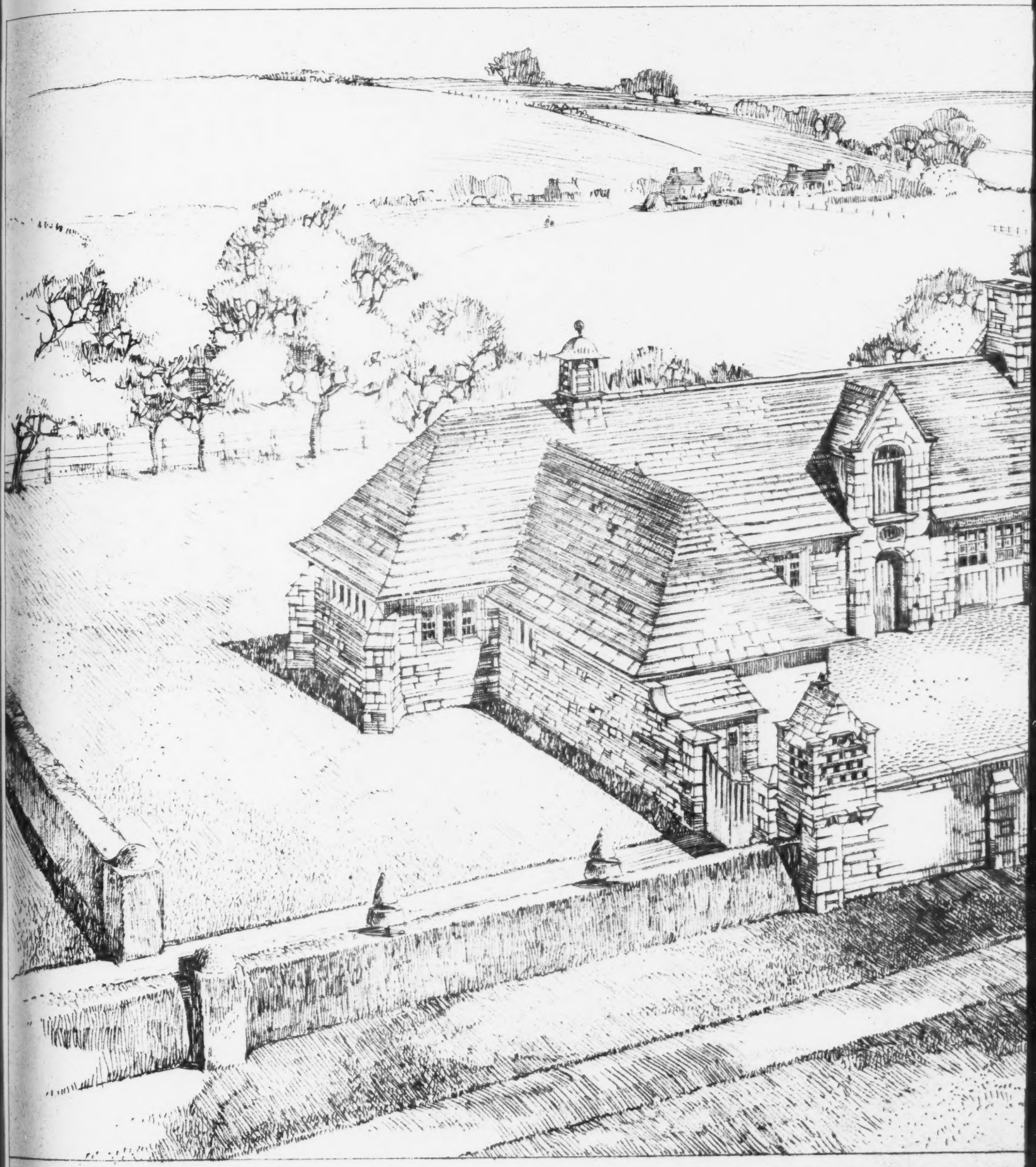
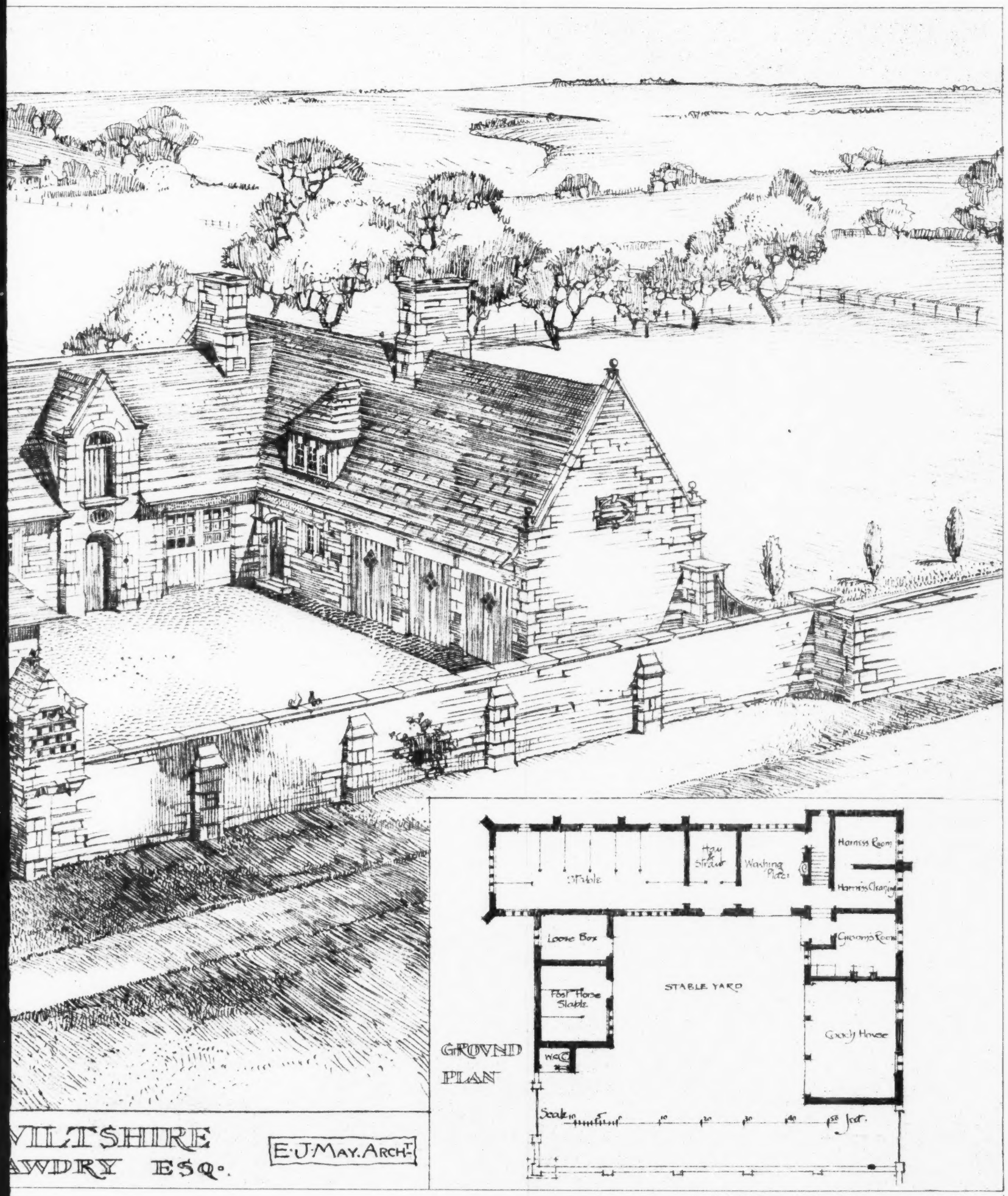


J. Jobbs-Delt.

STABLES AT SHAW HILL, WILTSHIRE
for CHAS AWDRY ESQ.



VILTSHIRE
AWDRY ESQ.

E.J.MAY. ARCHT.

GROUND PLAN

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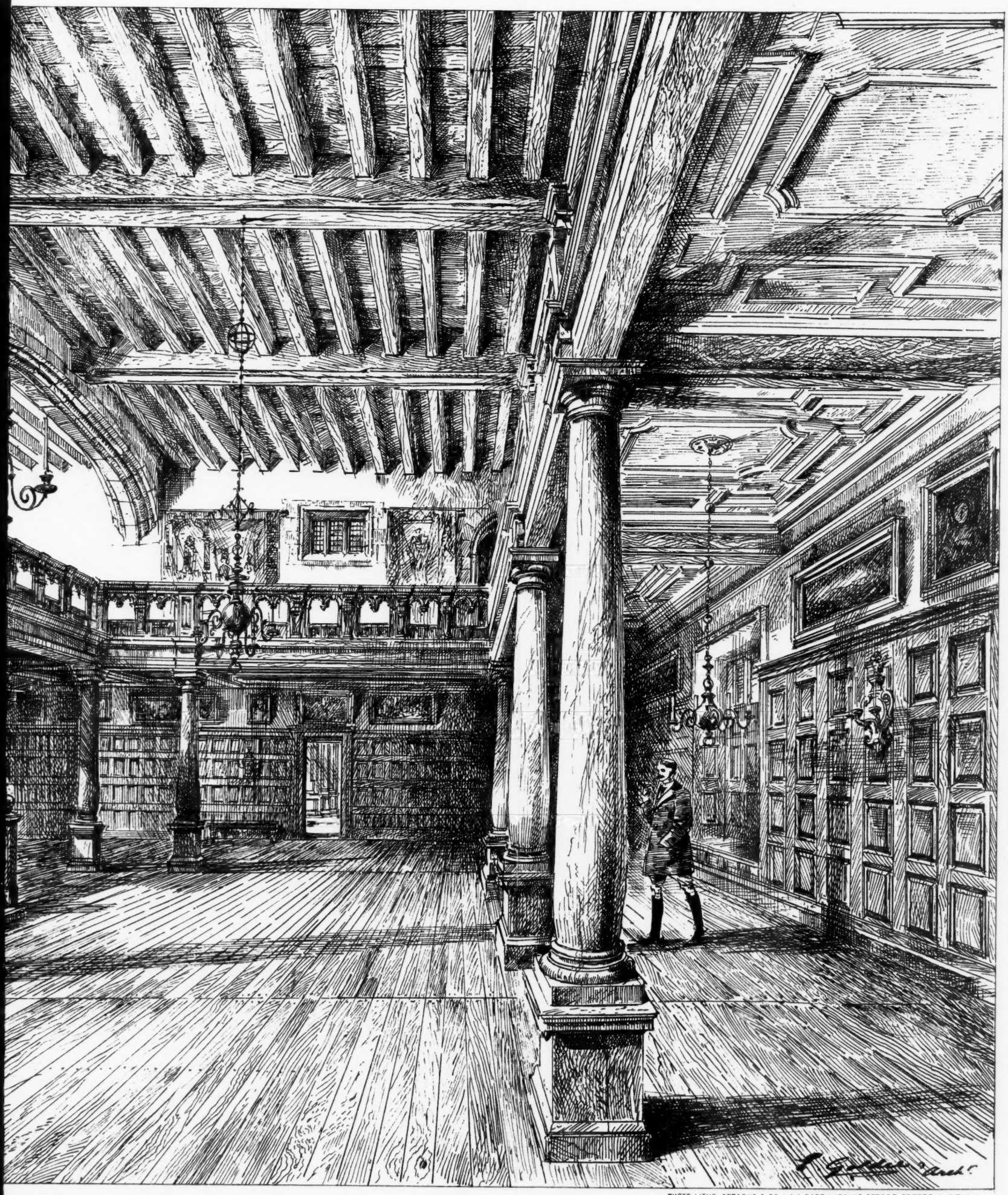
ASHORNE HILL HOUSE: INTERIOR OF HALL.—Mr. E



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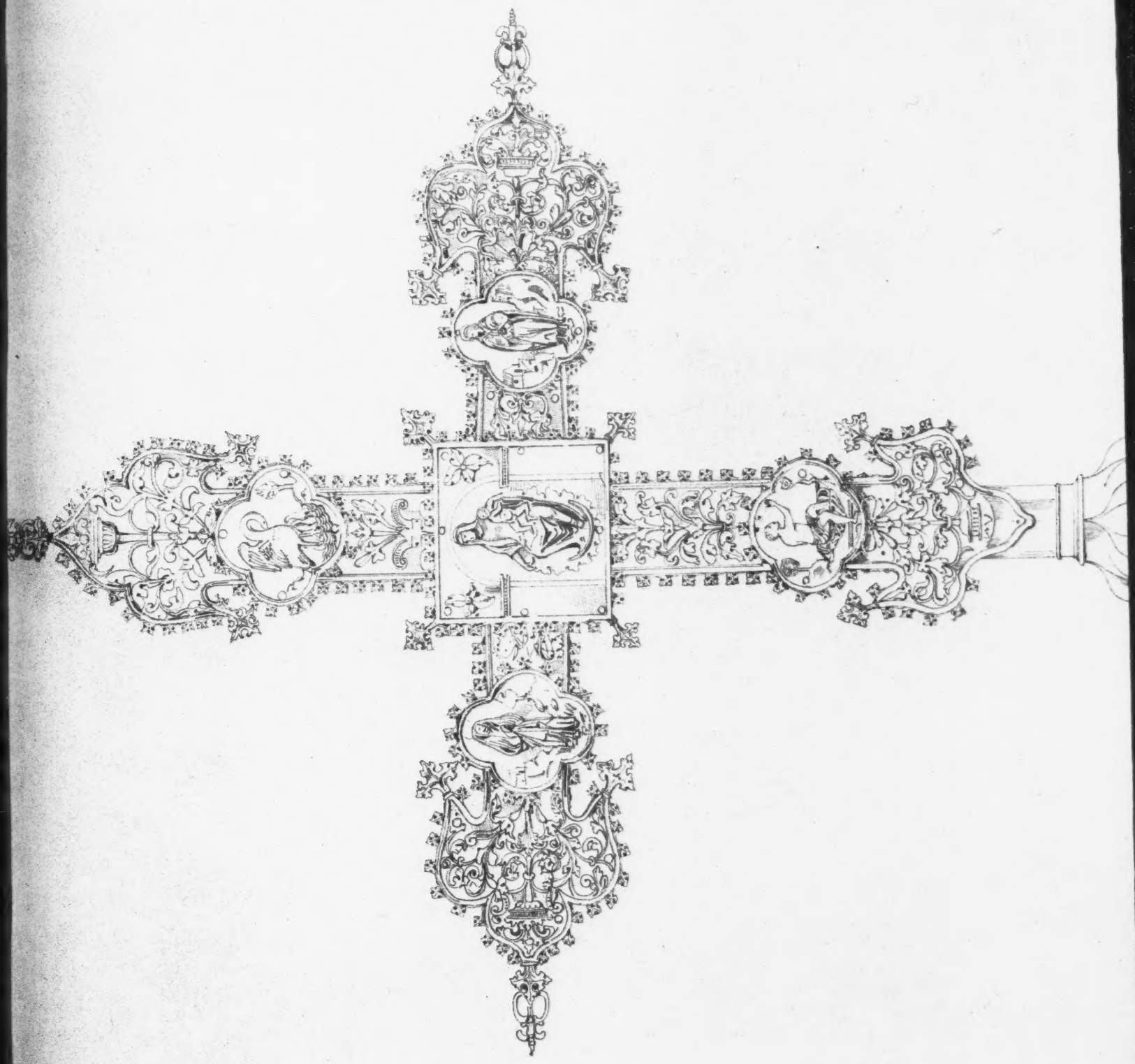
E: INTERIOR OF HALL.—Mr. E. Goldie, Architect.



Hammered Silver Altar Cross for the Cathedral Church of The Blessed Virgin Salisbury (half full size)

The Cross is Ancient, The Knop, figures &. Base designed by E. Doran Webb F.S.A Archt.

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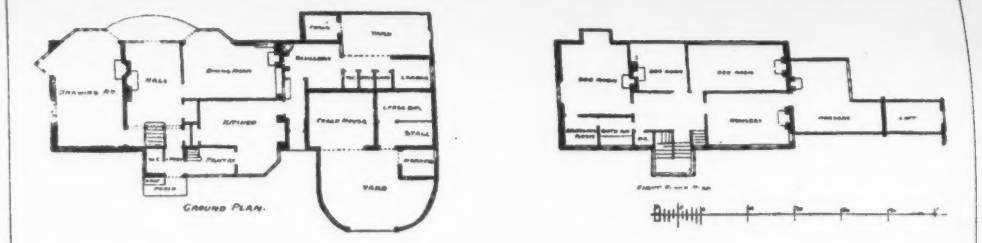

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A HOUSE NEAR LEICESTER.—Mr. James Ransome, A.R.I.B.A., Architect.